

MINI-BRIDGES YOU CAN BUILD

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While not everyone is interested in building a bridge, you have to admit that a mini-bridge can be both a charming point of interest, and serve a practical purpose in many yards. Not to mention the fact that it can increase the value of your property. Anyone who has a small stream or pond, or even a low area in their yard, can appreciate the view of a beautiful little bridge landscaping their property. And, as you can see from the following pages they are simple to build.

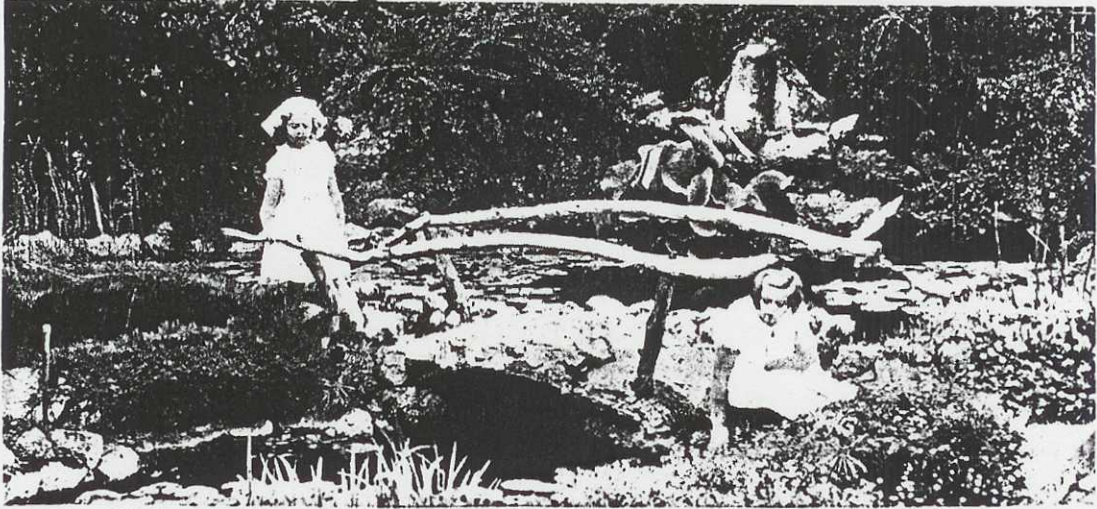
You will find seven different types of small foot bridges, and one large enough for limited vehicular traffic, featured on the enclosed pages. It should be noted that the seven small foot bridges are not designed to carry vehicular traffic. These are foot bridges only. My youngest son can attest to this fact as he enjoyed racing his motorcycle across the little Japanese "Moon bridge" using it as a ramp to fly his motorcycle. He did this one time too many, and spent some time in the hospital. The bridge is still there, but the motorcycle is long gone.

I would strongly recommend that you use only the best materials to build your bridge. Use only pressure treated (preserved) lumber, other than for the Rustic Garden bridge (page 2.) which is built from natural materials. Where possible, bolt the parts together rather than nailing. The bridges may be varied in design to suit your fancy and the garden landscape. For a spectacular effect at night, turn one (or more) railing posts at each end of the bridge into a lamp. Either electric or kerosene. The small "trussed" portable bridge (page 2.) is normally used as a utility bridge. I recommend it be built using marine plywood or at least given several coats of spar varnish to protect it from weather. All bridges should be inspected several times a year to insure safety. Especially those over, or near water.

Special care must be given the Rustic bridge (page 5.) if it is to be used to carry limited vehicular traffic. (Limited to automobiles and pickup trucks.) This is NOT a highway bridge and should be used only to and from a residence, camp, or cabin. For legal reasons you may wish to attach a NO TRESPASSING sign to the bridge (even if it's located in the boondocks). You might even consider building a gate which blocks access to the bridge when locked. IMPORTANT: Take photographs of your locked gate (on bridge) with your No Trespassing sign in plain view. This could help you in court if some fool falls off your bridge and hurts himself. Always inspect your bridge before driving over it, if you have been away a few months. Inspect the bridge abutments to insure they have not been undercut by high water. Inspect the bridge for damage from water borne objects such as tree limbs, etc. Consider installing light reflectors on the bridge stringers for safety at night. If you leave the bridge open while you are gone, make sure that everyone knows that he/she crosses this bridge at their own risk!

Page 1.

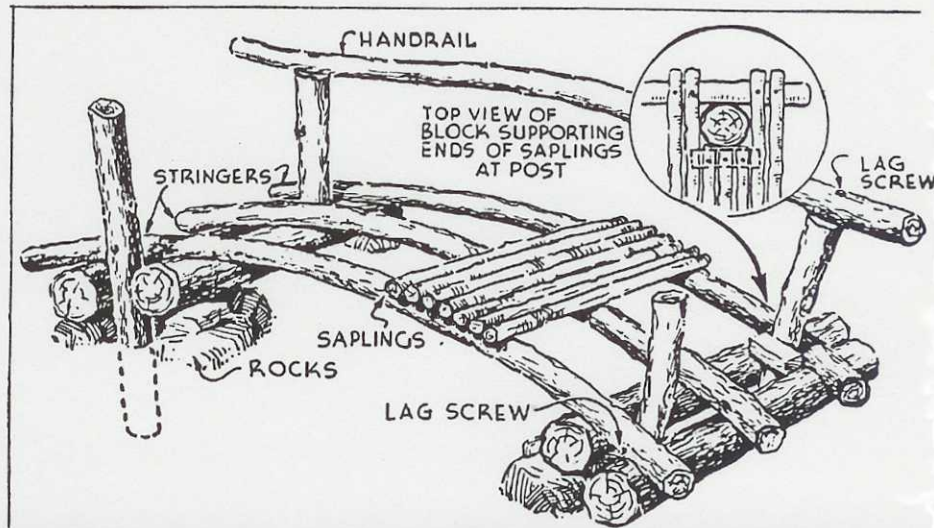
Rustic Garden Bridge Built from Small Logs and Saplings



A PICTURESQUE little bridge for an informal garden can easily be made of small logs and saplings. After selecting the spot for your bridge, brace the end posts with logs and rocks as suggested in the sketch. All the wood should be peeled and seasoned. Creosote the bottom ends of the posts and set them 24" into the ground. The rocks and cross logs hold them steady and add to the rustic effect of the bridge. Trim the arched stringers along their tops with an adze so that they will more readily support the floor.

The height of the handrails is about 24", while the width and length of the bridge is, of course, determined by the location chosen for it. Lag screws are used to hold logs and stringers in place.

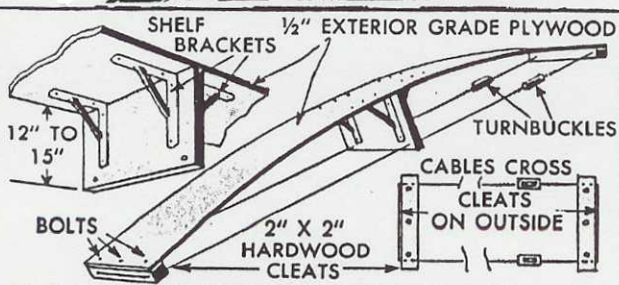
It is best to drill the saplings which make up the floor of the bridge before attempting to nail them to the stringers.



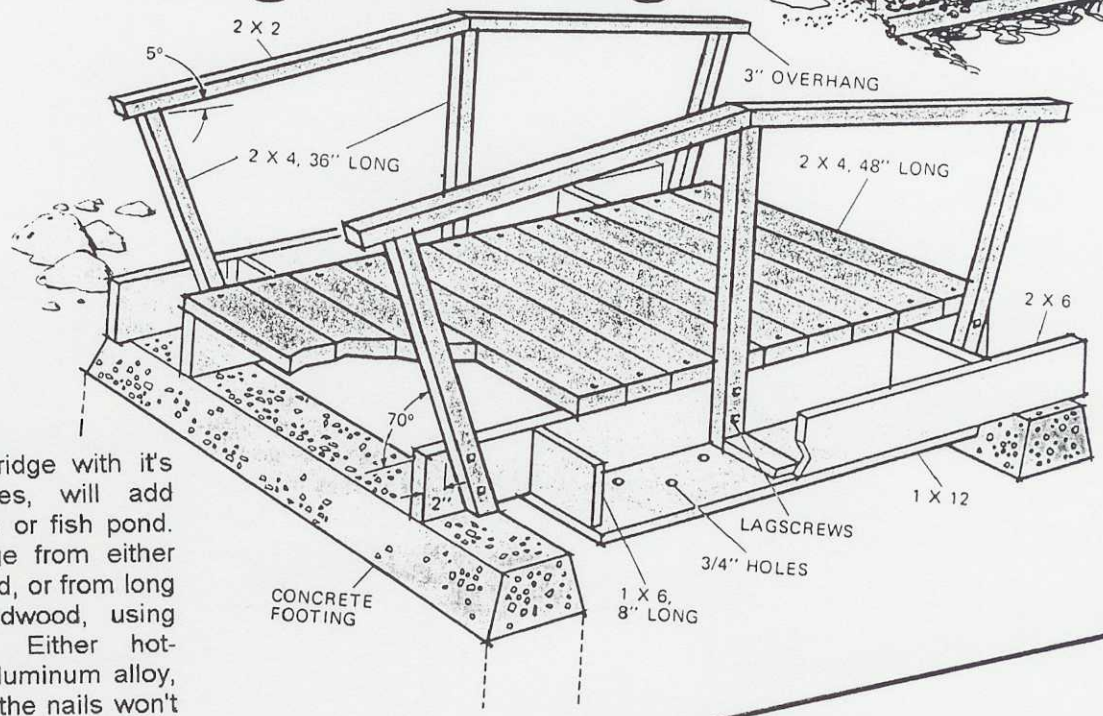
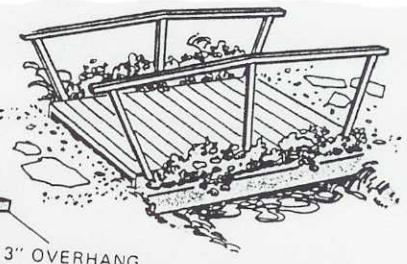
Trussed Strip of Plywood Provides "Bridge" Over Pool



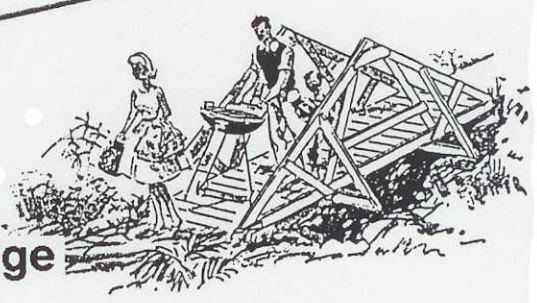
A lightweight, portable bridge that will permit a man to work over small garden pools can be made by bowing a length of $\frac{1}{2}$ or $\frac{5}{8}$ -in. exterior plywood and trussing it with wire cables. The plywood should be cut 15 to 18 in. wide and long enough to span the pool, allowing for the fact that curving the plywood will shorten its overall length. The center brace is a piece of $\frac{3}{4}$ -in. plywood, 12 to 15 in. wide. It is solidly fixed in place by four shelf brackets. Hardwood cleats bolted to each end of the bridge are drilled to receive light wire cables for taking up slack and also to prevent the plywood from twisting. The length of a bridge of this type should not exceed 10 ft., as it would not be rigid enough for safe support, although heavier materials would allow a longer span.



Rock garden bridge

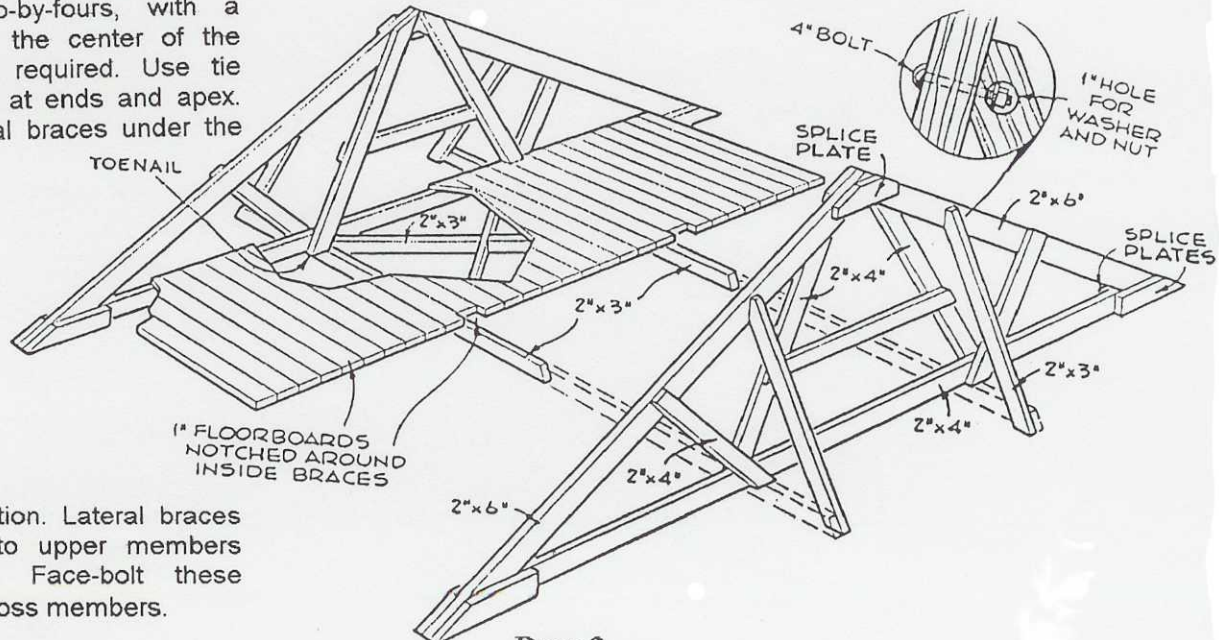


Our Rock Garden bridge with its built-in planter boxes, will add charm to any garden or fish pond. Build this little bridge from either pressure treated wood, or from long lasting California redwood, using noncorroding nails. Either hot-dipped galvanized, aluminum alloy, or stainless steel so the nails won't discolor the wood.



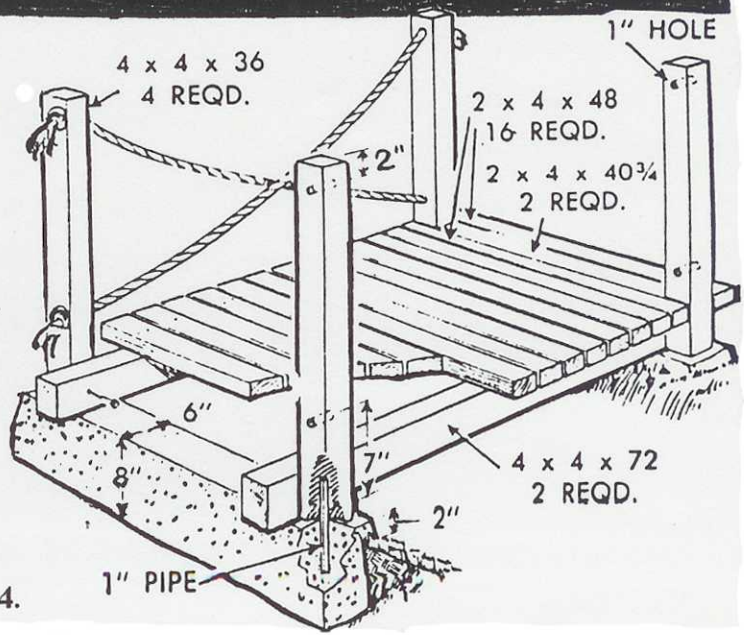
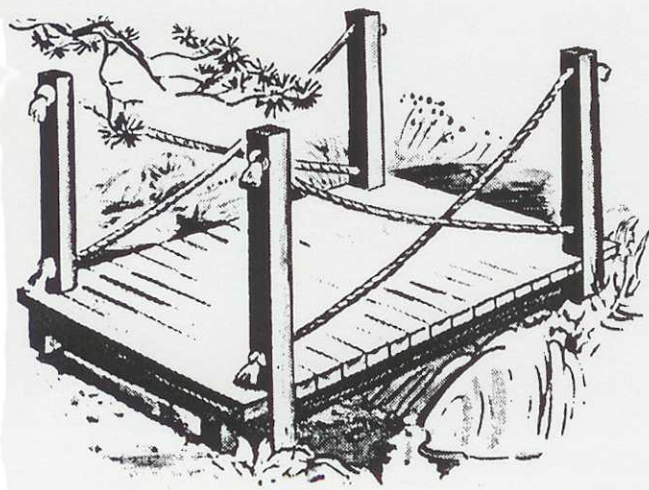
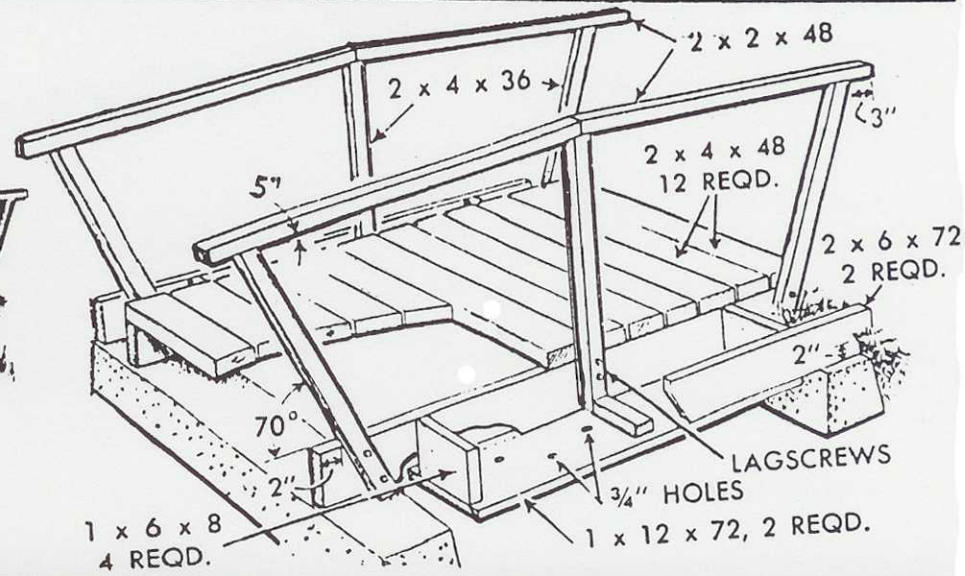
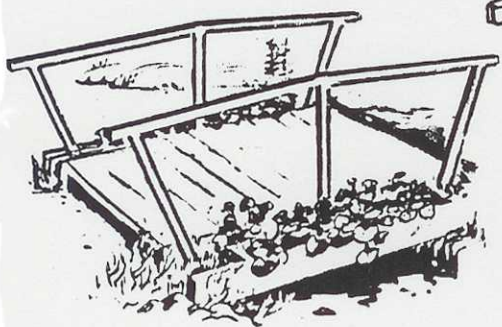
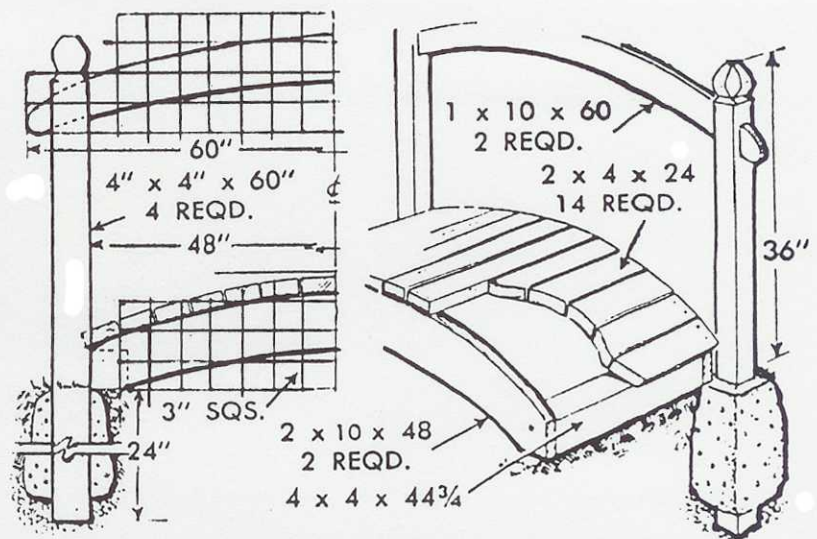
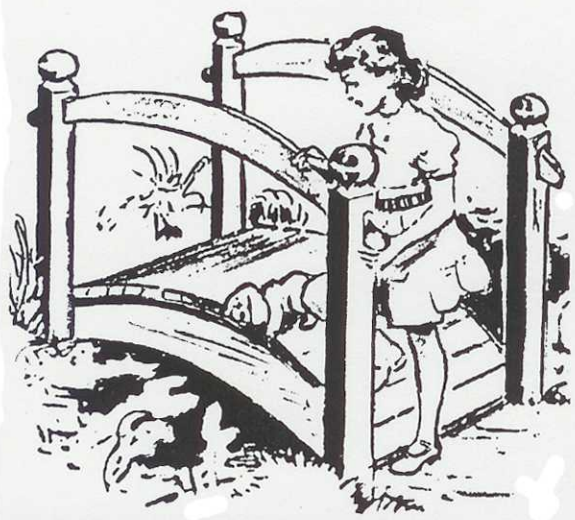
Roof Rafter Bridge

Rafter-style trusses give this bridge its name, and provide strength to the design. Trusses can be of two-by-threes and two-by-fours, with a bolted splice in the center of the horizontal tie if required. Use tie plates and bolts at ends and apex. Fit two horizontal braces under the

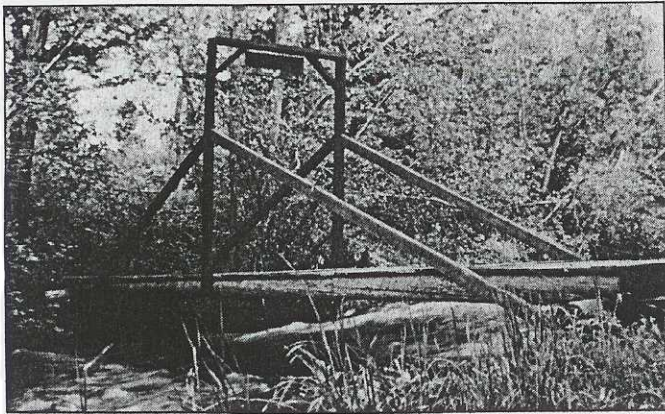


middle floor section. Lateral braces can be joined to upper members with drawbolts. Face-bolt these braces to long cross members.

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Rustic footbridge features a steady span which resists wood rot. It is neither a complex nor expensive undertaking; it was completed in a weekend for under \$75.

Because it suited our needs, we built a bridge with a 30-ft. span over an unusually lively stream. However, there is no reason why the principles of its construction can't be adapted to longer or shorter crossings, or to heavier materials and a graded approach to allow use by vehicles.

Building the abutments was the first order. These amounted to two logs, 6 ft. long and 8 in. in diameter, that stand on post legs, parallel to the stream bank.

The posts were to be set in perpetually wet earth, so they were first treated in a

bath of diesel fuel and Penta Plus 40, a powerful wood preservative and fungicide. These legs were also sharpened on one end, like a pencil, to keep them from walking in sympathy to vibrations set up as people crossed the bridge. Their height, which ultimately translates into the clearance under the bridge, was determined by the Creek at flood stage; not just the depth of the water during runoff, but the height of objects that could conceivably be swept down from above as the creek cleanses its banks each spring. At mean low water,

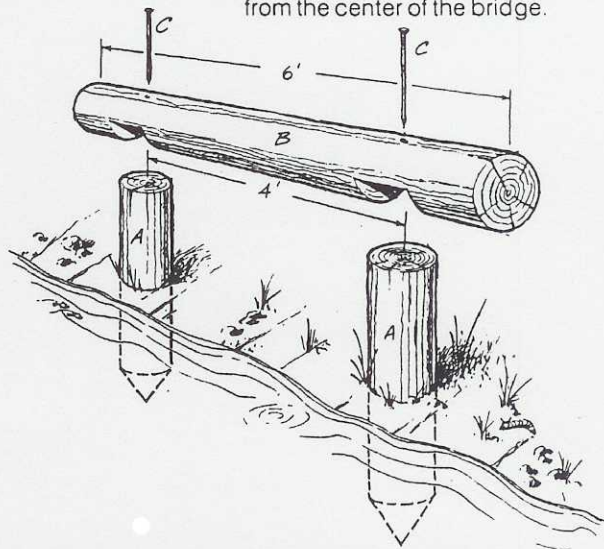
this translated into 3 ft. of clearance.

The abutment logs were notched underneath, to mate with the butt ends of the post legs. The post legs were then set in holes, backfilled and attached to the abutments with single 12 in. log spikes. Spike-holes were predrilled through the abutment logs to save sweat and discourage splitting.

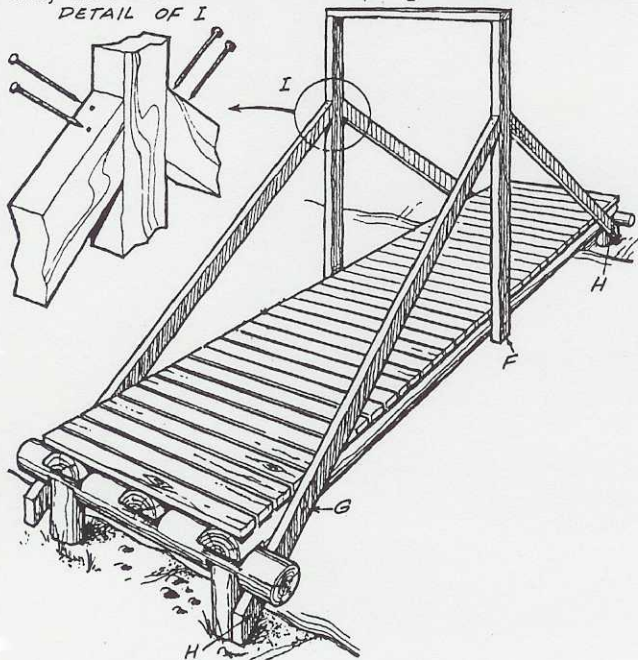
Putting the stringers in place came next. We used three peeled logs that were

8 in. in diameter on one end and 6 on the other, and set them on 2-ft. centers. If you don't have a forest handy, 6×6 timbers work just as well—better, in fact, in that you'd be nailing to flat surfaces. House movers know where to find such husky timbers, should your local lumberyard deal only in limp-wristed 2-in. wood.

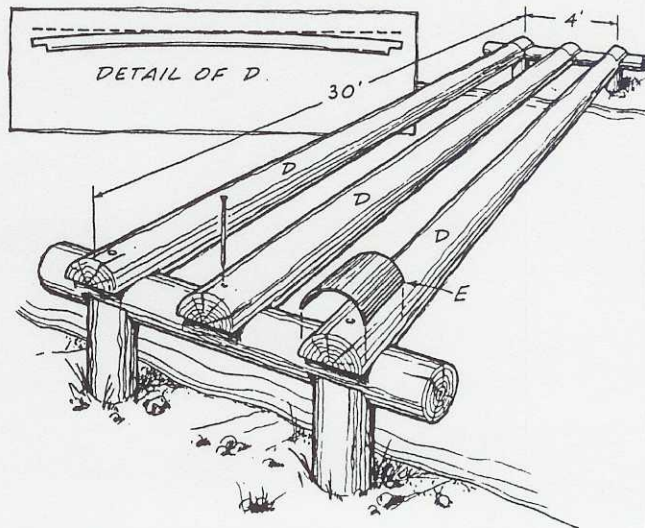
Any large, long timber will have a bow, or set, a natural curve in the wood. Once we determined that set, we bowed the logs upward, so water runs away from the center of the bridge.



Bridge Abutment. Posts (A) to hold abutment logs are treated with diesel fuel and Penta Plus 40 wood preservative and sharpened on one end. Abutment logs (B) are notched underneath to mate with post legs and are then predrilled to accept 12-in. spikes (C). Post legs are then set in holes, backfilled and attached to the abutments with single 12-in. log spikes.



Suspension Principle. Doorlike frame is tied to the two outside stringers (F) at center of span. Rough-cut 2×4s angle down to form support rails which are tied to the stringers (G), post legs (H) and support frame (I) with 20d common nails. System creates a rock-solid span.



Stringer Placement. Stringer logs (D) are placed with bow up (Detail). Butt ends are notched to mate with abutment logs and predrilled to accept spikes. Once in place, stringers are painted with preservative, allowed to dry overnight and then topped with 6-in.-wide flashing (E).