

**Folding chair from the *Miscellany*
Starving Student Version**

See the paragraph in **red**

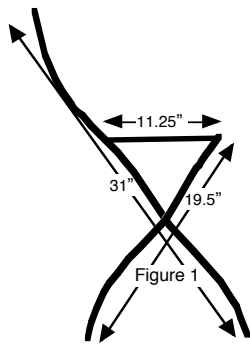
A Period Folding Chair

The two pictures on the right show an antique Middle Eastern chair, possibly 19th or early 20th century Syrian. The picture below them is a similar chair from the fifteenth century. The design is very convenient for SCA purposes, since it folds almost perfectly flat.

The two differ in one significant detail. The Syrian chair is symmetrical from the seat down—the short legs are identical to the lower part of the long legs. The chair below it uses straight short legs, curved long. The latter design is a little easier to make, I find it somewhat more attractive, and it is the one for which I have found period examples, so in this article I focus on it while also providing instructions for those who want to try the other version—which I suspect, but cannot yet prove, is also period.

Figure 1 is the side view on the right reduced to a line drawing. Figure 2 is a cutting diagram for the vertical pieces. Dimensions are based on the Syrian chair, which is the only one I have actually been able to measure. The seat is 19 ½" above the ground, so to make your own chair first determine what seat height you find comfortable and then scale the figure accordingly.

Construction



One of the chairs shown has five long verticals, four short verticals, and nine short slats for the seat, the other has six, five, and 11. How many you want for your chair depends on how thick the plank is that you are cutting your verticals out of and how wide you want the chair to be.

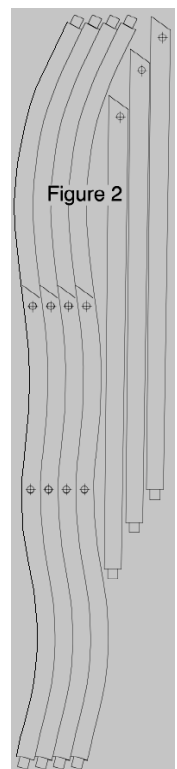
Hardwood lumber often comes in ¾" thick planks. While it is possible to use that thickness for the chair, unless you are



making it in a child's size you will end up needing a lot of pieces. The chair in Figure 1 is cut from 1 ¼" thick wood. That gives it a seat width of $9 \times 1.25 = 11.25$ ".

Once you have decided what kind of wood of what thickness to use and bought it, the next step is to make a pattern. Copy Figure 2—this article is on my web site and can be downloaded—blow it up to whatever size you require, modify for the number of pieces you need, print it out. Paste it to the wood using a little flour-water paste, then saw out the pieces. It helps to have a band saw, which is how I did mine. If you don't have one you can use an electric jig saw, if you don't have that, a hand jig saw—although that may take a while. Drill the holes. Cut the slats for the seat out of the same thickness wood you use for the verticals, using Figure 1 for shape and size. Note that Figure 2, unlike Figure 1, is for the version of the chair where the short verticals are straight rather than curved.

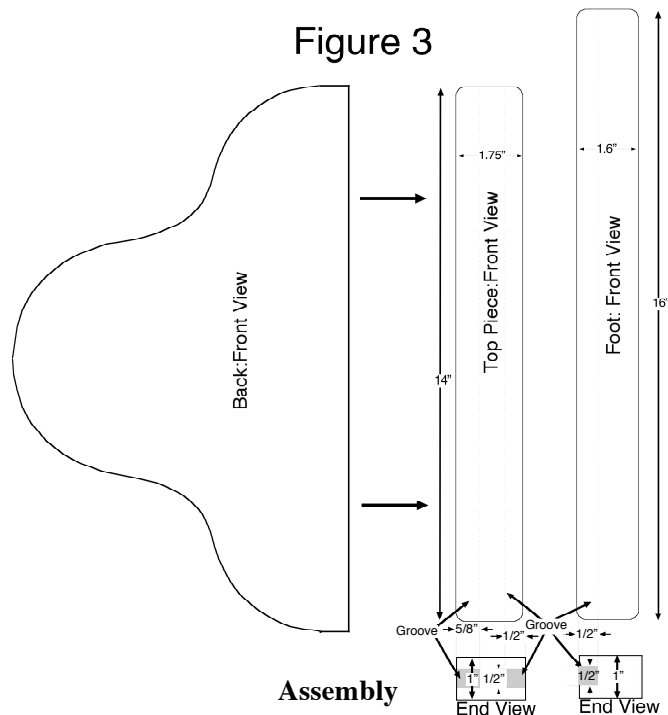
In my experience, the seat slats are the trickiest part of the whole operation. There are two



slightly different kinds—one that pivots on a long vertical and rests against a short, one the other way around. When the chair is assembled, the central holes of the two are going to be superimposed, with one dowel running through both. That means that the sum of the distance between the two holes on slat A and the corresponding distance on slat B is going to be the horizontal distance between the hole in a long vertical that A pivots on and the corresponding hole in a short vertical that B pivots on. With that distance fixed, an error in the length of a slat or the position of hole of as little as an eighth of an inch results in either a slat that is too long and so keeps all the slats from lying flat or is too short and so leaves a noticeable gap.

The best solution I have found is to make one slat A and one slat B and fiddle with them until you have them exactly right—until you can assemble them with a short vertical and a long vertical and dowels through all the holes and have the two slats lie flat with no gaps. Then use them as patterns for the rest, making enough so that you have a slat A for every straight vertical and a slat B for every curved vertical. Then assemble the whole thing, trim anything that's a little too long, curse at whatever gaps show up, and replace any slats that, by some malevolent magic, turned out wrong.

You now have everything except feet and back. The feet are long rectangles with rounded corners as shown in Figure 3, cut from 1" thick wood. Use a saw to cut a $\frac{1}{2}$ "x $\frac{1}{2}$ " groove along the top edge of each for the tabs at the ends of the verticals to fit into. Glue the tabs in and fill the gaps in the groove with additional pieces of scrap wood cut to fit. Alternatively, drill or router holes for the tabs and use a chisel to square them. The back attaches to the long vertical pieces using the piece labelled "Top Piece" in Figure 3. It is grooved along its bottom edge to take the tabs on the top ends of the verticals and along its top edge to take the edge of the back, which goes in as shown by the two arrows and is glued.



Before gluing on the back and feet you must first assemble the verticals and the slats, as shown in the figures, using $\frac{3}{8}$ " hardwood dowels. I cap the dowels with wooden hemispheres bought from my local hardware store. Alternatively, you can drill the end and put a much smaller dowel through it crossways.

Before gluing, use sandpaper or a file to round the outer edges of the two slats at the edge of the seat and the front edge of the seat so they won't cut into the legs of the person sitting in the chair. Sand anything smooth that you want smoother than it is. If you are going to finish the chair with linseed oil, now is the time to do at least those parts that will be hard to get at once the whole thing is together. I usually disassemble, oil the pieces, avoiding places that will have glue, then reassemble a day or two later when the oil is dry. When the chair is reassembled you can glue on the feet, the top piece, and the back. Fill in the parts of the grooves that are empty with additional bits of wood cut to size. Oil anything that didn't get oiled before. Wait a day or two.

You now have a chair that will fold flat. For proof, see the next page.

Variations

Most of my chairs were made of hardwood, with thicknesses ranging from $\frac{3}{4}$ " to $1\frac{5}{8}$ ", but I also made one out of softwood. The verticals were cut from a three foot length of 2x12, which cost about ten dollars in number 2 pine. Using four long verticals, three short, and seven slats gave me a width of $7 \times 1\frac{3}{4} = 12\frac{1}{4}$ ". I used half inch pine plank for the back and cut the feet and the top piece out of a two by four. Total cost, including dowels, was under twenty dollars, and the chair came out very nicely.

I also did several in the style that has the short verticals as well as the long verticals curved. If you want to do one that way, you can still use Figure 2. The slanted lines on the long verticals which you were wondering about when you looked at the

figure represent what would be the top of the piece if it were a short vertical—just above the hole for the dowel that the seat slats pivot on. So print out the figure twice to an appropriate scale and use one copy for cutting the short verticals. If you come across a reference to a period chair done that way, let me know—I'm still looking.

I have shown sizes on many of the figures, but don't take them too seriously—I have never gotten my hands on a period version of the chair to measure. Details in this article are a combination of details from the out of period antique I started with and details that I included because I did it that way and the result was satisfactory. Feel free to change anything you like and see how it comes out. I, for instance, replaced the iron rods in the antique chair with $\frac{3}{8}$ " dowels in the chairs I built.



3 feet of 2x12

Folding

Folded

