



From left to right: Maggi Debaecke, Paul Bierker, Anna Hattendorf, Julia Bareilo, Aline Bykowski, Boris Baßy, Lu Heintz, Tzu-ju Chen, Sue Amendolara

TECHNICAL ARTICLE

Hand Weaving with Wire on a Jack Floor Loom

By Laura Kante

For this issue, there is both a full length technical article as well as a one page bench tip. Laura Kante, a fiber-based artist who frequently uses patinated woven wire in her work, has expanded upon weaving metal introduced in Arline Fisch's well-known book, with a more detailed explanation of how to work with wire on a loom. Nurit Asher Vagner, an international jeweler, has generously donated a very helpful approach for more precisely forming heavy gauge rings.

At the recent conference in Seattle, I had many great conversations with members interested in sharing their experiences and discoveries through technical articles. I continue to appreciate the opportunity to assist in contributing to our community through these articles. If you are interested in writing a full article or even a shorter tip, please contact me first so that we can work together from the beginning. Thanks and enjoy!

– James Thurman

In a desire to weave my own wire mesh and explore its various possibilities, rather than be locked into commercial products, I began to research weaving with wire. I found that this process simply translated from one medium to the next, but lack of practical information and application made it seem unattainable to many. In Chapter 3 of Arline Fisch's book, *Textile Techniques in Metal*, she discusses weaving. She describes several different methods, including strip weaving in bands, pin weaving in shapes and volumetric forms, and loom weaving. Her examples use 32-gauge wire and small scale looms such as card weaving, inkle looms, and tabletop looms. She asserts that larger scale is possible but does not go further into depth.

This article will supplement the information given in that chapter. Specifically, it will outline weaving with 18 to 22-gauge wire on a jack floor loom. Including: warping on a warping board, loom protection, dressing the loom in front to back method, and weaving. A previous knowledge of loom weaving is necessary; I have only included practices I have adapted to wire.

Also here are some helpful references:

Fisch, Arline M., *Textile Techniques in Metal*, Ashville, NC: Lark Books, 1996.

Chandler, Deborah, *Learning to Weave*, Loveland, CO: Interweave Press, 1995.

Van der Hoogt, Madelyn, *The Weaver's Companion*. Loveland, CO: Interweave Press, 2001
on a neck tube (20" long – ½ metre).



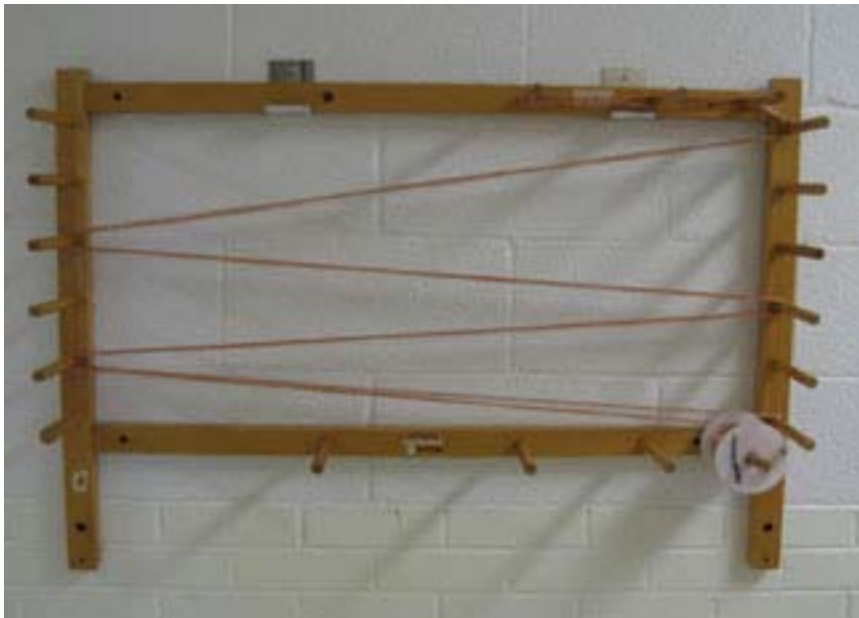
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By Laura Kante, *continued*

Step 1: Warping



Weaving on a floor loom enables you to weave up to 15 feet of cloth 3 to 4 feet wide (depending on the size of the loom). Using nails or pins in the ground would only work small scale, like for a table loom. Therefore, a warping board is more effective

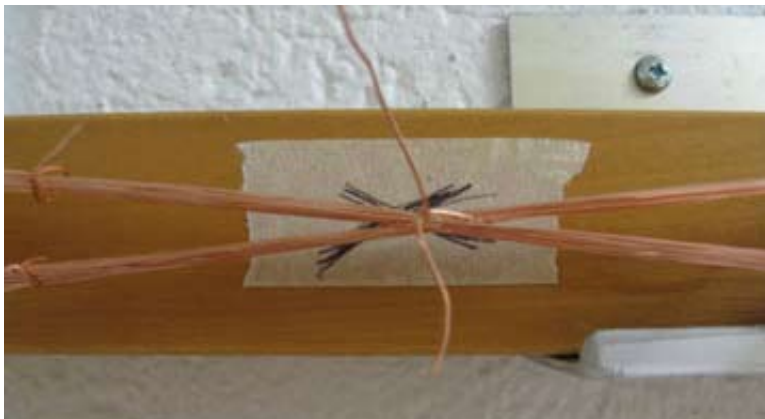
Warp wire in exactly the same method you would for thread, creating a cross at one end, and choke tying all the same sections. To choke tie the warp and cross use small pieces of wire, and twist the two ends together. They should be loose enough that the wires can lay flat next to each other. Scraps of what you are warping work best, since they will react to any treatment the same.

Make the cross choke tie slightly looser than the others, this will help it separate and move later.



Instead of chaining off, as you would with thread, roll the warp into a circular spool. Begin at the bottom peg, ending with the cross end on the outside of the spool. Tie several ties tightly around the spool to keep it from unrolling. Do not be concerned about crimping; the warping board pegs are not small enough to cause a crimp in the wire, and the ends where it will crimp will be cut.

If creating a wide warp, do this in several sections. Any more than 40 to 50 ends may become difficult to work with, depending on the gauge of the wire.





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Step 2: Patina

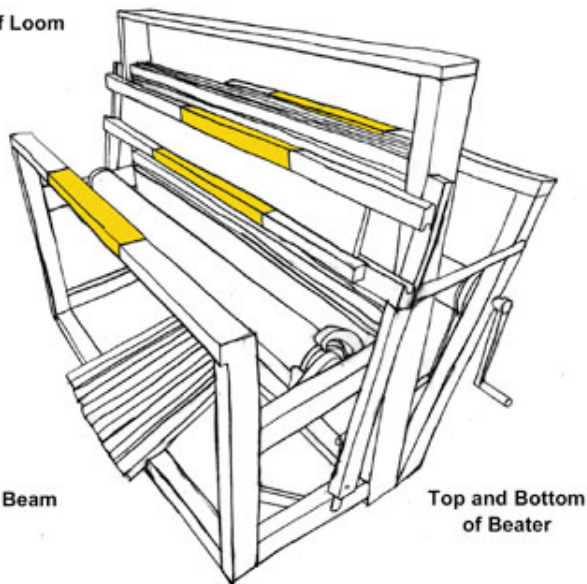
This is the time to apply any patina that you want to your metal wire. The amount you are using has been measured out, but it is not on the loom yet. If your patina finish requires sealing with wax, apply now, but do not wipe it off. It would be impossible to do a thorough job on the spool. If you are not using a patina then ignore all future instructions concerning it. In my work I use Liver of Sulfur so the copper in the photos is black in color.

Step 3: Protecting the Loom

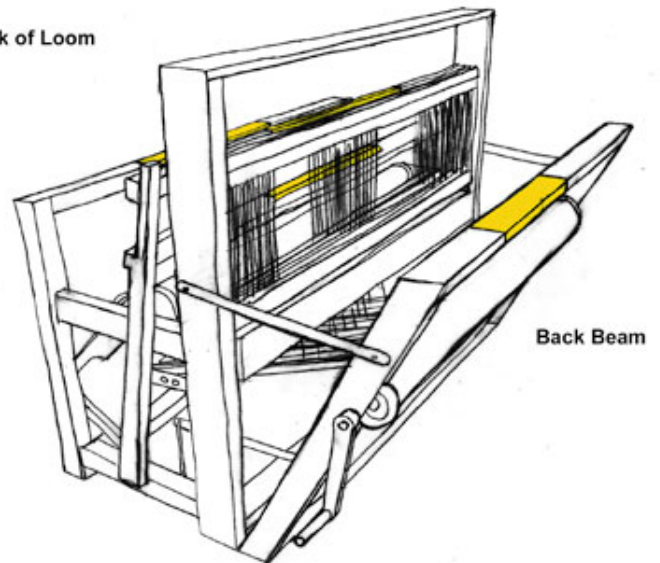
To protect the wood areas of the loom against any damage from the wire or patina, it is important to wrap any areas of contact with cloth. Muslin is a cheap cotton fabric for this purpose. Old sheets would also work fine. The cloth must be strong enough not to rip, and be able to absorb any debris well. Fabric bandage tape works best to secure the cloth. Masking tape can be used very short term, but could leave a damaging residue on the wood over time.

Cover the highlighted areas: the front beam, top, bottom, front and back of the beater, and the back beam. The cloth should cover as wide as you plan your cloth to be.

Front of Loom



Back of Loom





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Simply wrap the wood with the cloth, then secure with tape to the wood on each side.



The beater cannot be wrapped, so taping across it works.





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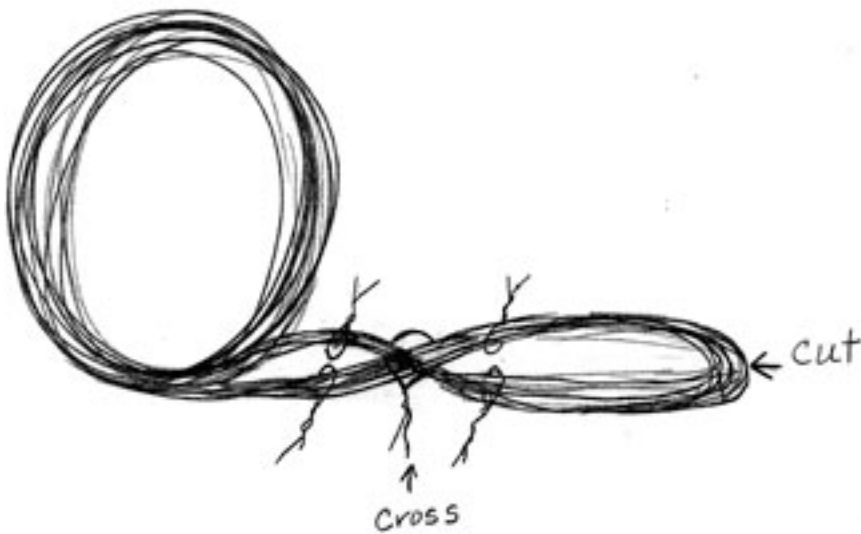
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By Laura Kante, *continued*

Step 4: Dressing the Loom

I use a front to back method of dressing the loom. This means you begin with the cross end of the warp at the front beam, you sley the reed, thread the heddles, then wind on the back beam. For detailed instructions, refer to *Learning to Weave*, by Deborah Chandler.

To begin, untie spool and unwind the first 3 feet of wire warp containing the cross. Wipe this section clean of any wax or patina residue with a similar cloth you wrapped your loom with. Carefully, move the cross down the warp, toward the spool, by working the choke ties to separate and untangle the individual wires. This requires patience and a gentle touch. Only move the cross as far as you have cleaned, leaving ALL choke ties in place. Traditionally this step is done with lease sticks, however, thicker gauges of wire can tangle and crimp and could break the wood or the wire. Instead, the wire ties serve to maintain the cross. Now cut the loop at the end of the warp so that all ends are the approximately the same length.



Now sley the reed and thread the heddles according to basic weaving instructions. You will not need a sley hook or threading hook because the wire is rigid enough to string through the dents and heddle eyes easily. As you sley and thread, loosely twist the ends of the wire together in groups of 8 to 12 on the back of the reed or heddles, but not too tight so they can be easily undone. This prevents them from accidentally pulling back through.





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The reed number will depend upon the wire gauge, as well the desired openness of the weave. I use a 6-dent reed and 22-gauge to achieve 1/4 in. space between warp ends.

To tie onto the warp apron rod, make sure that all ends are even, and divided into sections of about 8-12 ends. Take each section and divide it in half. Half lays over the top of the warp apron rod, half goes under, then twist behind the warp bar. This should be done very tightly so that it will not untwist without effort.



Even spacing is very important: the same length of wire on each twist should extend past the bar, all wires should be in a straight line from bar to reed, and the same distance between all sections. Loose wires can cause tension problems.

To wind onto the warp beam repeat the following steps. This is easier with two people: one in front holding tension and one in back winding and adding paper. If you sleyed and threaded more than one section of warp, complete step 1 and 2 with each section and the wind on all at once.

1. Move the cross with all the choke ties down the warp (away from the loom) about 2 feet. It is easier to work with and unwind the spool in smaller these sections.

2. Wipe clean down to the cross.

3. One person holding even tension on the warp, the other winds the warp onto the warp beam.

*Starting off, make sure the ties/twisted wires lay flat against the warp beam, and don't bend back and overlap the warp. They will create humps and you want the wires to lay flat.

4. Lay paper between layers of wire as you wind it on. This helps maintain tension.

**Arline Fisch suggests layering slats as well as paper.*





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As you move the cross down the warp, your warp will tangle. Be gentle and patient to avoid crimps. Loosen by opening up space between wires, not by pulling. Stop when the end of the warp is at the front beam. Wipe clean, and cut all ends so that they are even.

Tie onto the cloth apron bar in the same manner you did the warp apron bar, using your treadles to separate the over and under sections.

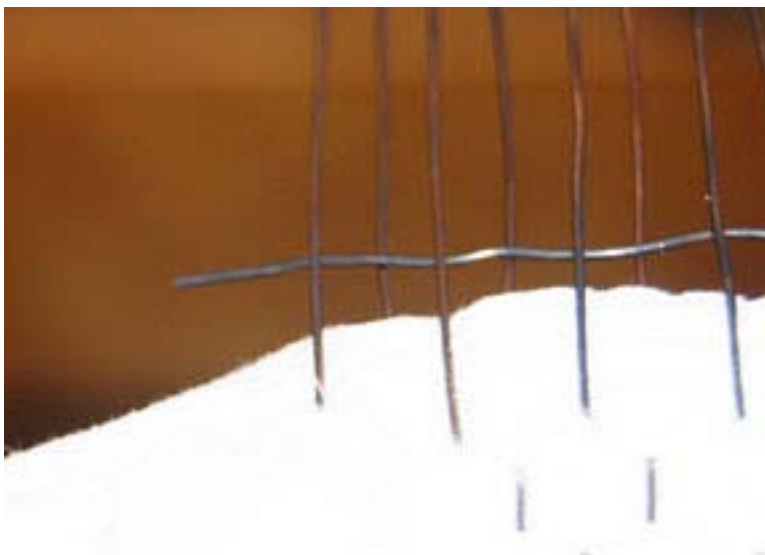
To adjust the tension of the warp, tighten the twisted wire with pliers.



If one wire is loose pull it individually with the pliers, and around the already twisted wire. Make sure tension is even across warp. Wires will droop if too loose and break if too tight.

Step 5: Weaving

Create heading and weave wire using same techniques, drafts and patterns as cloth. The rigidity of the wire is the only difference. It allows you to bend and place the weft where you want and not worry about unraveling.





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When adding in weft, the selvages do not need to be woven back into cloth. They can be left about a 1/4 in. off the side, either to be cut off or folded back once cloth is off the loom. Also, for each pass, weft should touch the outer warp wire without any excess slack given. There is no shrinkage to account for and the draw in will be less than with cloth. However, once the weft is beaten, both the weft and the warp wires will crimp into place, and it is not advisable to attempt undoing and reweaving as is possible with thread.



When you cut the cloth off the loom, release the tension and cut straight across using tin snips or scissors. Wire cutters would only allow you to cut one wire at a time, which is too slow and could alter the tension of the cloth.





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Again loosely twist ends together to keep them from pulling back through, or if project is completed remove all remaining warp from loom. I find these leftover long sections of wire useful for sewing sections together.

To finish the edges choose from a variety of techniques. Fisch describes several. The easiest is to bend the small end of warp back over the edge.



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