

On the edge

Selvages are the bane of beginning weavers. Whenever I look over a new student's shoulder, I almost always hear these words: "I know my selvages are terrible!" Or: "I haven't been worrying about my selvages!"

Actually, *worrying* about selvages is not a good thing and can greatly diminish your joy in weaving. Here are some ways to create the conditions that will result in perfect selvages. They may not be the only ways, but in twenty-five years of teaching, I've found them to work best.

Ingredients for perfect selvages

Smooth and even selvages depend on several factors—all of which are important: the pull of the weft against the edge threads, warp tension, weft angle, and shuttle position if there is more than one weft.

The pull of the weft

The most satisfying weaving comes when

you can throw the shuttle rhythmically back and forth so that the pull of the weft against the edge threads is just right: not too tight so that the edges are pulled in, not too loose so that weft loops form.

In most cases, you'll be using a boat shuttle with a rotating bobbin. When you "throw" the shuttle through a shed, the thread becomes taut as it turns the bobbin to unwind. If the drag of the bobbin is just right, it pulls the weft snugly against the selvage. The less thread there is on the bobbin, the more the bobbin turns and therefore the greater the drag, so extra attention must be paid (a gentler throw) to avoid draw-in as the thread runs low.

So that the *only* drag on the thread is the rotating bobbin, the thread must be wound evenly, smoothly, and tightly on the bobbin (see Photo a). The "tightly" part is critical. If the bobbin is wound loosely, as you throw the shuttle the unwinding thread will sink into the loose

threads (see Photo b), stop the bobbin, and yank on the selvage.

Do not start by winding a lump at the ends of bobbins with flanges. Smooth and straight is your goal. The unwinding thread will catch on any lumps, stop the bobbin (Photo c), and yank on the edge threads. When the bobbin is full to the edge of the flanges, continue winding only in the center, without overfilling (Photo d).

Warp tension

If warp tension is too loose, the drag of the bobbin can pull in the edge threads even if it's unwinding smoothly. Almost always, in fact, the warp should be wound very tightly (and evenly) on the beam and held at firm tension during weaving. If the warp is loosely wound on the beam, pulling on any individual warp threads will draw them tighter around the warp beam, changing forever their tension in relation to the other threads.



a. Wind bobbins tightly and evenly



b. Loosely wound weft will catch



c. Lumps prevent unwinding



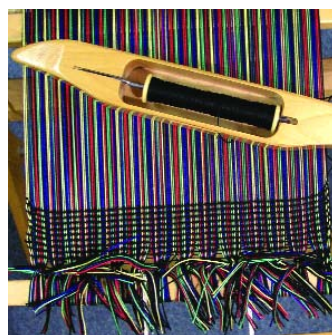
d. Fill bobbins in the center



e. Tie on in small groups



f. Large groups cause draw-in



g. Edge threads are too loose



h. Edge threads are too tight

Tie the warp onto the front apron rod in small ($\frac{1}{2}$ ") groups (Photo e) at the same width as the warp in the reed. Large groups create draw-in and differences in warp tension (Photo f). Make sure tension is even on all the groups. If it is not, the fell will not be straight and the selvages affected (Photos g and h).

Weft angle

Enough weft must be placed in the shed to bend over and under the warp threads (weft "take-up"). How much depends on the interlacement and the thickness of the warp threads. No allowance needs to be made for warp rep since the warp does all the bending. Extra allowance must be made for weft-faced fabrics since the weft does all the bending. For most fibers and interlacements, an angle like the one in Photo i will accommodate take-up (close the shed before beating to avoid pulling the weft straight as you beat).

A weft angle steep enough to accommodate take-up in weft-faced weaves would place more extra weft at one side (where the shuttle exits). To distribute the weft evenly, "bubble" it by bringing it toward the fell at places along its length (Photo j).

Shuttle position

Some 2-shuttle weaves (especially warp rep and weft-faced rug weaves) produce the best selvages if the shuttles are used in a certain order and placed in certain positions when they exit the shed. If they start on the same side and the first shuttle is placed on the web and the second on the bench beside you, the weft threads will not wrap around each other at the selvages. If they are placed in the opposite positions, they will.

Smooth selvages in warp rep can be achieved if the thin weft follows the thick weft, both shuttles start on the same side, and the following steps are taken: When the edge warp thread is down where the thin weft exits, pass its shuttle under the thick weft (Photo k). When the edge warp thread is up, pass the shuttle over the thick weft thread (Photo l).

Other aids

For weave structures other than plain weave, floating selvages are a good way to ensure that all weft threads pass around the outermost warp threads. To make floating selvages: Add one warp end to each side of the warp (they can be beamed with

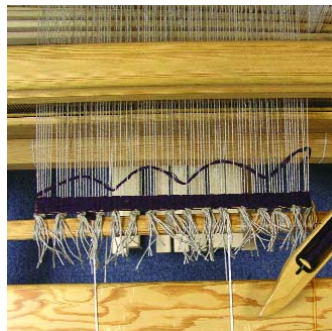
the warp or not). Do not thread them in heddles, but sley them in the next empty dent on each side. Add a weight to each one; a 2-3" S-hook works well. Slip a lark's head knot around the S-hook. (To reposition the hook, pull it out, pull out the knot, and retie.)

When you weave, always enter the shed over the floating selvedge and exit under the floating selvedge on the other side. (You can do the opposite, but this way is easiest: Slide the shuttle into the shed over the floating selvedge. With your other hand lift the floating selvedge on the other side as you also catch the shuttle; Photos m-n.)

With some weaves, especially weft-faced ones, a temple is the best way to prevent draw-in. Set the temple so that the base of its teeth are even with the edges of the warp in the reed (Photo o). The temple must never be more than $\frac{3}{4}$ -1" away from the fell, so reposition it often (Photo p). Pull the weft snugly against the edge thread, but be sure to maintain the usual weft angle or bubble the weft. If you have to push hard to reinsert the temple, you have not allowed enough weft in the shed. —Madelyn



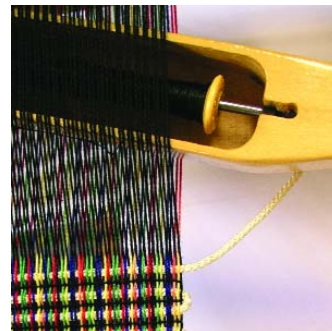
i. Place the weft at an angle



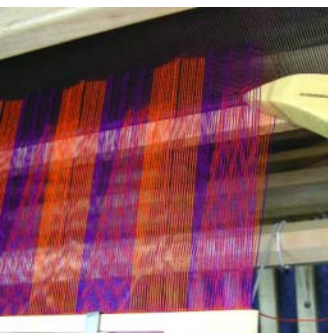
j. Bubble the weft for rugs



k. Edge thread down, go under



l. Edge thread up, go over



m. Enter over a floating selvedge



n. Exit under a floating selvedge



o. Set temple length at the reed



p. Inserting temple near the fell