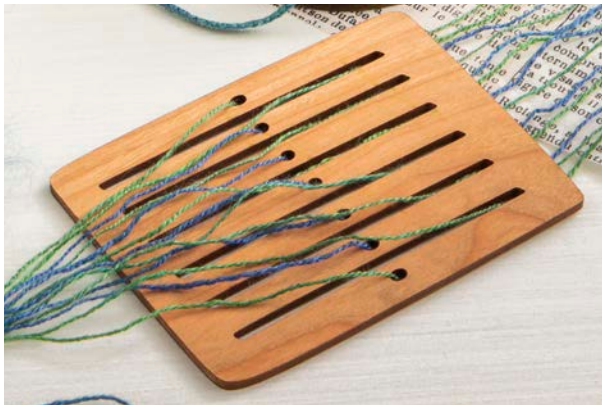
Spin Off *PRESENTS*

BANDWEAVING

Using Rigid Heddles and Inkle Looms



Photos by George Boe, Matt Graves, and Joe Coca

Photos by Matt Graves

One of the most important things to know about the plain-weave and pick-up patterns in this collection is that they can be woven on a variety of looms. A pattern written for inkle looms can be easily converted to backstrap-style rigid heddles, rigid-heddle looms, and even floor looms. Threading drafts will indicate heddled and unheddled threads. On an inkle, a heddled thread is held in place with a loop of string and an unheddled thread is free to move (*shown above*). On a rigid heddle, the heddled threads pass through the holes, while unheddled threads pass through the slots. That's it! You can weave with the loom you have or branch out to something new. Most of all, have fun!

—Kate Larson, *Spin Off* editor

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Spinning for Warp-Faced Bands

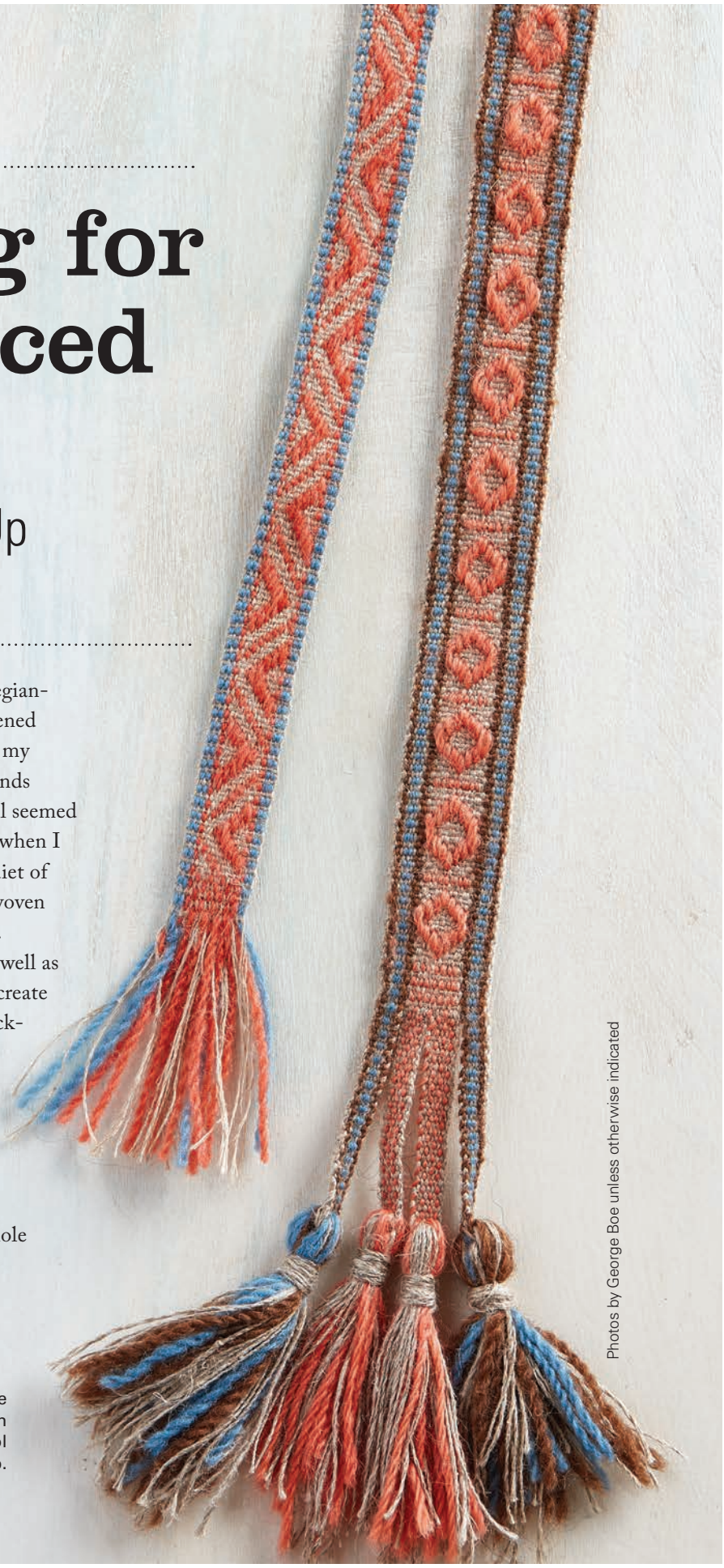
Plain Weave & Pick-Up

by Kate Larson

While buried deep inside Vesterheim Norwegian-American Museum's textile storage area, I opened a drawer of woven, patterned bands that took my breath away. I had seen similarly patterned bands while traveling in Estonia and Finland that all seemed impossibly complex to my knitter's eye. Only when I was able to peer closely at the bands in the quiet of the textile storage did I understood that the woven structure of the bands is actually quite simple.

By varying the size of the warp threads as well as the fiber, texture, and color, bandweavers can create incredible patterns with a technique called pick-up. This made me revisit the few pearl cotton inkle bands I had woven and wonder . . . How would they look in handspun? What if I varied fibers within the warp? Would it still work if the warp threads were not the same size?

I was already scrabbling down the rabbit hole and ready to start spinning.



These bands combine natural handspun linen and naturally dyed wool yarns in the warp.

Photos by George Boe unless otherwise indicated

NARROW RIBBONS OF CLOTH

Around the world, there are an amazing variety of ways to weave bands and tapes. Many of these techniques are warp-faced. This means that warp threads are pushed closely together during weaving to completely (or nearly) cover the weft, becoming the dominant feature of the fabric. Plain weave, or tabby, is one of the simplest and most common types of warp-faced bands. During weaving, alternate warp threads are raised while the others are lowered to create a shed. The weft is passed, and then the two layers of the warp switch position. Plain-weave tapes, often called inkle bands, can be woven in solid colors or in vertical or horizontal stripes by changing colors during warping.

Pick-up patterns are created when some of the warp threads are manipulated so that they do not follow the natural over-under positions of plain weave. There are different types of pick-up techniques. In Nordic and Baltic pick-up bands, pattern threads within the warp often are a contrasting color, are larger than the background threads, or both. With each pass of the shuttle, a pattern tells the weaver to either pick up pattern threads from the lower layer of the warp or drop them from the top layer to create a design on the surface of the fabric.

Photo by Kate Larson

Backstrap weaving can be done while sitting on the floor or in a chair. Here, Kate is sitting on the floor with one end of the warp tied to a newel post and the other attached to her waist with a backstrap and band lock. The rigid heddle sits in the warp an arm's length ahead of the work area. The weaver changes sheds by lifting or lowering the rigid heddle.

THE MANY WAYS TO WEAVE A BAND

A loom holds the warp under tension between two points with some method for raising and lowering selected warp threads. This simple recipe has been modified, tweaked, and adapted all over the world. Professional weavers in Estonia today can weave several wide bands at a time on large floor looms. Weavers in Central and South America who spend much of their time outdoors make impressively intricate bands with simple, portable looms by simply tying the end of the warp to a big toe. In most regions, complex and simple methods have evolved side by side to fit varying circumstances.

When it comes to designing handspun yarns for bandweaving, the heddling method (how the warp threads are lifted and lowered during weaving) has some impact on how we design our handspun yarns. Most bandweavers use one of two methods: rigid heddle or string heddles.

Rigid Heddle

Today, the term "rigid heddle" brings to mind small folding looms primarily for weaving simple cloth with fabulous texture and color. When it comes to bandweaving, rigid heddle refers only to the heddle itself and not the loom. Rigid heddles are used extensively in the Nordic countries, Baltic region, and beyond for weaving bands and tapes. They are often used with a backstrap setup where one end of the warp is tied to a fixed point (such as a window latch, newel post, C-clamp on a table edge, etc.) while the other end is tied to a belt at the weaver's waist with the rigid heddle suspended on the warp. These small rigid heddles can also be used in conjunction with other types of loom frames. Because the heddle, with its holes and slots, separates and holds the warp threads apart, there is less friction between them as they pass up and down during weaving than with string heddles.

An inkle loom with string heddles that are fixed in place. The weaver changes sheds by lifting or pressing down on the lower, unheddled warp threads.

Photo by Kate Larson

String Heddles

String heddles are used on a variety of looms, including inkle and backstrap. Each warp thread that is heddled (every other warp thread, in the case of the bands shown) passes through a small loop of string. The string loops can either be tied to a fixed point, as on an inkle loom, or to a stick that can be lifted during weaving to produce a shed. Unlike a rigid heddle, string heddles typically allow the threads to sit close together. If the yarn used for warp is not strong, smooth, and firm, it can begin to abrade, fraying and shedding fibers as weaving progresses, making it more difficult for the weaver to switch between sheds.

Shuttles and More

When working with woolen and mixed warps for warp-faced bands, I love using a shuttle with a sharp, beveled edge. There are many traditional variations in weaving communities around the world, but I typically use a belt shuttle with a sharp edge or a band knife.

SPINNING FOR BANDWEAVING

You need to spin strong, smooth yarns for warp-faced weaving. The warp yarns must withstand abrasion, tension, and manipulation as you weave this type of dense cloth. Some sources suggest that handspun should not be used for warp-faced bands. As you can see in the many beautiful handspun bands in museum collections around the world (and those being woven today), this is obviously not the case. However, the weaving techniques discussed here place more demands on the yarn than most other uses for our yarns. A bit of planning and sampling will help you design successful yarns for bandweaving.

Fibers, Drafting Style, and Twist

Bandweavers commonly use wool, alpaca, silk, cotton, and linen fibers. When working with a single fiber (or a few similar fibers) within the warp, you can use virtually anything to make bands, bearing in mind that the yarns must be both strong and smooth to move past one another easily during weaving.

Strong and smooth are generally thought to be synonymous with worsted yarns. Worsted is both a term for fiber preparation (in which all the fibers are aligned and the same length) and a spinning style in which the twist does not enter the drafting zone between your hands. Both elements can help create a denser, firmer yarn that contains less air and has less surface halo than other yarns—perfect for bandweaving. Commercial combed tops, handcombed

tops, and combed locks work well for plain-weave and pick-up bands when spun with a bit more twist than for knitting or crochet yarns.

Some spinners also produce stunning bandweaving yarns using carded or even hand-teased preparations spun with a woolen long draw. Twist is the essential ingredient for effective band yarns. Strong twist in both the singles and ply can turn even short fibers into fine-gauge workhorse yarns.

These yarn-design decisions require accounting for the type of loom and heddling method, the type of band design you would like to use, and the kind of cloth you want to make. Sampling and experience will help you balance the seemingly endless options. The Tool Tote project on page 8 is a great way to get started, using short warps to see how your handspun behaves when using different amounts of twist and different fibers in two types of bands. I suggest trying both a rigid heddle and string heddles on an inkle or backstrap loom to see a wider range of options for putting your handspun to work.

Mixed Warps and Fiber Combinations

When exploring different fiber combinations, choosing fibers and yarns that have similar elasticity can make it easier to weave successful bands. Very stretchy, bouncy wools such as Polwarth, Corriedale, or Horned Dorset make beautiful bands, but they can be difficult to work with when paired with famously inelastic linen in the same warp. Wool breeds that work well for bands when used in combination with cotton, linen, or silk include Shetland, Norwegian White, and Romney.

These bands combine millspun cottolin and naturally dyed wool yarns in the warp.

Warp-faced bands from northern Europe often combine fibers with very different characteristics. Some of the bands in Vesterheim's collection have cotton or linen warp threads alongside wool (or even several types of wool). It was also common practice to use both millspun and handspun yarns in the same warp.

In Norway and elsewhere, weavers commonly combined millspun and handspun yarns. The bands shown combine 16/2 unbleached cottolin with handspun wools dyed with indigo or madder.

The handles for the Spinner's Tool Totes are bands woven on an inkle loom. Plain weave means that alternate threads were raised and lowered. After the weft is passed between them, threads that were lowered are raised and vice versa (right). During this process, some warp threads can be manipulated or picked up so that they float above the surface of the fabric (left).

Twist Direction

We handspinners can make use of a surprising design element that some traditional bandweavers used to create surface texture: twist direction. The first time I noticed this was in poring over some of the older pick-up bands in Vesterheim's collection. Most are made with a mixed warp of millspun cotton or linen (spun Z and plied S) and handspun wool pattern threads (spun S and plied Z). The difference in twist direction makes the pattern threads stand out dramatically from the background. Nilda Callañaupa Alvarez mentions in her video *Andean Spinning* and book *Secrets of Spinning, Weaving, and Knitting in the Peruvian Highlands* that changes in warp-yarn twist direction are also used in Peruvian regional traditions to add texture to warp-faced cloth.

Yarn Structures

Most bandweaving yarns are two-ply, but your explorations can take you in many directions. Some of my favorite bands combine fine-gauge two-ply yarns and larger, rounder three- or four-ply yarns in the warp. This usually works best if the larger yarn is also less dense and a bit squishy. Not all of these yarns will be successful mixed together so sampling is important, but don't be afraid to jump in and experiment.

Using chain-plied yarns, also called Navajo-plied yarns, can also create interesting color effects in the warp. When spinning a chain-plied yarn for bandweaving,

Kate made the multicolored plain-weave band on an inkle loom with three-ply (chain-plied) yarn spun from Bluefaced Leicester/silk multicolored combed top and three-ply (plied from three bobbins) Merino/silk.

Near right: The orange and tan yarns are spun and plied in opposite directions. The opposing twist gives this band a chevron texture, but this is just plain weave! *Far right:* The second band shows the background thread and pattern thread spun in opposite directions. In pick-up bands, the twist direction differences in the warp are less obvious at first glance but allow the pattern yarn to be visible even in a monochromatic band such as this one.

I choose a bouncy wool and prefer a final yarn that is fingering weight and has high twist. This combination helps to produce a yarn that is lightweight but strong and reduces the possibility that the little bump created during chain plying will be visible.

Spinning Weft

Weft yarns for weaving bands need to be strong and fairly smooth so that they slide easily through the compacted warp during weaving. Most of the time, the weft is nearly invisible in warp-faced bands. Most weavers choose a weft color that matches the warp threads at the outside edge of the band so the weft will be completely hidden. However, by changing the size of the weft, you can alter the thickness of the band as well as the edge effect.

BANDS AWAY!

Fiber preparation, drafting style, and twist management are important factors in designing successful warp-faced weaving yarns. There are many combinations to explore, and some will work better than others. In the meantime, you'll be producing beautiful, useful cloth that challenges your spinning skills and helps lay to rest the myth that handspun cannot be used as warp!

RESOURCES

Dixon, Anne. *The Weaver's Inkle Pattern Directory*. Loveland, Colorado: Interweave, 2012.
Rand, Piia. *Eesti Kirivööd. (Estonian Pattern Bands.)* Tallinn, Estonia: Saara Kirjastus, 2013.
Torgenrud, Heather. *Norwegian Pick-Up Bandweaving*. Atglen, Pennsylvania: Schiffer, 2014.
Band knife: Vävstuga, www.vavstuga.com
Belt shuttle: Hokett Would Work, www.wouldworkifhewantedto.wordpress.com
Multicolored Bluefaced Leicester/silk top: Chasing Rainbows Dyeworks
Solid Merino/silk: Abstract Fiber, www.abstractfiber.com

Kate Larson is the editor of *Spin Off* and author of *The Practical Spinner's Guide: Wool* and spends as many hours as life allows in the barn with her beloved flock of Border Leicesters. She loves to explore the many ways in which textiles connect people and environments near and far.

The most common weft choice is slightly smaller than the warp. Below are three bands, one with the weft slightly smaller, one with a same-size weft, and one with a weft larger than the warp threads.

SPINNER'S TOOL Totes

by Kate Larson

Keep your wheel oil, orifice hook, scissors, and more just where you need them.

Photos by George Boe

I find a singular joy in textile work that is mobile—work that moves with me through the world. Handspinning, knitting, and small-loom weaving can move around your house as sunlight and mood shift. You can take them to the park and work while you chat with a friend. Or jump on a plane, travel to the other side of the world, and pick up your project where you left off. While this is all very romantic, it does often leave one saying, "Now, where did I leave my spinning-wheel oil?"

Since the beginning of my bandweaving adventures, I have often hung finished bands from my spinning wheels. It's nice to spin while contemplating your next band project, but it can also be a helpful way to identify your wheel from the other identical wheels at a workshop or retreat. This tote project is a nice way to display your beautiful bands and keep your small tools close at hand.

Spinning Notes

Using only Merino top, I designed four different yarns that serve different functions in this project.

- The knitting yarn is a soft, round 3-ply DK-weight yarn. I wanted to full the bag slightly after knitting, so the yarn did not need to be as dense as I wanted the finished fabric. I used moderate twist in both the singles and plying (*Figure 1*). (Refer to yarn requirements on page 44 for grist and wpi information.)
- The plain-weave band uses a 2-ply warp yarn, which was spun Z and plied S (*Figure 2*).
- A 2-ply for pick-up pattern threads was spun in the opposite direction: singles S and plied Z. This will make these larger threads more visible (*Figure 3*).
- The finest yarn, a 2-ply with very strong twist in both the singles (Z) and ply (S), serves as weft for both bands as well as the background threads in the pick-up band. This yarn needs to be strong, smooth, and balanced for a warp-faced project (*Figure 4*).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2


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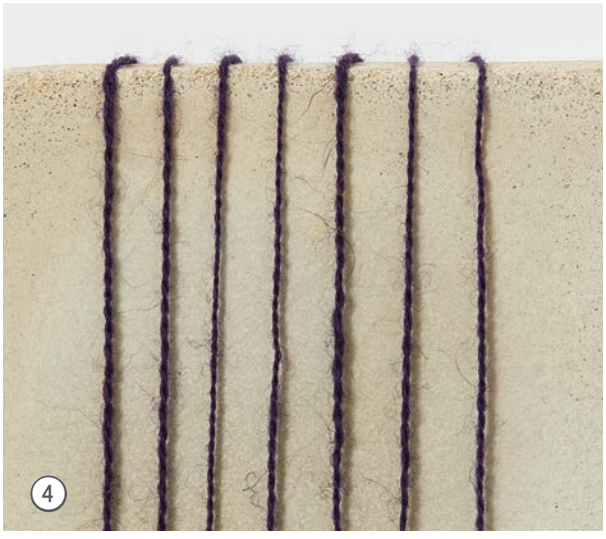
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Project Notes

Structure Weaving (plain weave and pick-up), knitting.

Fiber Kromski Felting Pack 100% Polish Merino dyed top in Pavo Peacock (4 colors, 1 oz each). Finished bags as shown weigh less than 1 oz total per bag.

Materials

Yarn 3-ply; 994 ypp; 10 wpi; light worsted; 23 yd.

Needles US size 3 (3 mm): set of 5 double-pointed (dpn). (Gauge is not significant for this project.)

Notions Marker (m); tapestry needle.

Gauge 10½ sts and 19 rnds = 2" lightly fulled.

Finished Size (Knitted portion) 3½" wide and 3¼" tall after finishing.

Visit spinoffmagazine.com/spin-off-abbreviations for terms you don't know.

PLAIN-WEAVE BANDS

Equipment Inkle loom with 12 string heddles; 1 belt shuttle; darning or tapestry needle; four ½" x 2" cardboard warp spacers (cut rectangles from thin cardboard such as a cereal box or cardstock).

Yarns Warp: 2-ply; 1,425 ypp; 13 wpi; sportweight: Color A (purple), 14 yd; Color B (green), 6 yd; Color C (turquoise), 6 yd; Color D (yellow), 7 yd. Weft: 2-ply (high-twist); 2,663 ypp; 20 wpi; laceweight; 15 yd.

Warp Length 23 ends 55" long for 2 bands (allows 3" for take-up, 17" for loom waste; loom waste includes fringe and 1" sample).

Setts Warp: 23 ends per half-inch. Weft: 13 ppi.

Dimensions Woven length (measured with tension loosened on the loom): 2 bands, each 15" not including fringe. Finished size after lightly steaming: 2 bands ½" x 14½" plus 2½" braided fringe at each end.

PICK-UP PATTERN BANDS

Equipment Inkle loom with 14 string heddles; 1 shuttle; darning or tapestry needle; four ½" x 2" cardboard warp spacers (cut rectangles from thin cardboard such as a cereal box or cardstock).

Yarns Background warp: Color A, 2-ply (high twist); 20 wpi; 2,663 ypp; laceweight; 21 yd. Pattern warp: 2-ply (Z-ply); 844 ypp; 10 wpi; DK weight: Color C, 12 yd; Color B, 6 yd; Color D, 2 yd. Weft: 2-ply (high-twist); 2,663 ypp; 20 wpi; laceweight; 15 yd.

Warp Length 27 ends 55" long for 2 bands (allows 3" for take-up, 21" for loom waste; loom waste includes fringe and 1" sample).

Setts: Warp: 27 ends per half-inch. Weft: 15 ppi.

Dimensions Woven length (measured with tension loosened on the loom): 2 bands, each 15" not including fringe. Finished size after lightly steaming: 2 bands ½" x 14½" plus 2½" braided fringe at each end.

Tips for Better Bands

Shuttles

When weaving bands with woolen warp threads, it can be helpful to use a shuttle with a beveled (sharpened) edge. This allows the weaver to push the weft closer to the previous pick, resulting in denser, tidier bands.

KNITTING INSTRUCTIONS

CO 40 sts. Join for working in the rnd, being careful not to twist sts.

Rnds 1–2 Purl.

Work in St st for 2" or desired length.

Set-up rnd K5, place marker (pm), [k10, pm] three times, k5.

Dec rnd *Knit until 2 sts before m, k2tog, sl m, ssk; rep from * 3 more times, knit to end of rnd.

Next rnd Knit.

Rep last 2 rnds once more, then work dec rnd 2 more times—8 sts rem.

Sl rem sts onto 2 needles, removing m as you come to them. Break yarn, leaving a long tail. With tail threaded on tapestry needle, use Kitchener st to graft closed.

FINISHING

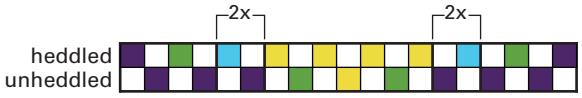
Weave in ends. Turn bag inside out and place in basin of warm to hot water with a little soap. Full the fabric lightly by rolling and working the piece while wet. (I like to continue fulling until I cannot see my fingers through the holes in the knitted fabric). Rinse with cold, clean water, roll in a towel, and shape the piece. Allow to dry fully.

WEAVING INSTRUCTIONS

① Before warping, make sure the inkle loom's tensioner is not quite fully extended. (When warping yarns that have bounce and elasticity, do not fully extend the tensioner before warping so it can be fully extended if more tension is needed after warping.) Use a guide string to measure 55" around the pegs and the loom's tensioner. Following the draft and color order for your chosen band (*color order 1* for plain-weave and *color order 2* for pick-up), warp the inkle loom and place the heddles.

② Form a header as follows: Measuring about 3" away from the beginning of the warp, press down the unheddled threads to create a shed; insert the first spacer. Change sheds by lifting the unheddled threads; insert the second spacer. Push the warp threads together so they are touching as they travel over and under the spacers. Wind a belt shuttle with weft yarn.

Color order 1



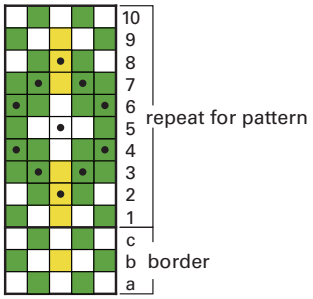
10 ends Color A
4 ends Color B
4 ends Color C
5 ends Color D
23 ends total

Color order 2

14 ends Color A warp yarn (2)
4 ends Color B pick-up pattern yarn (4)
8 ends Color C warp yarn (2)
1 end Color D pick-up pattern yarn (4)
27 ends total

Pick-up-pattern

only pattern threads are shown



pick up thread from lower layer

drop pattern thread from upper layer

Colored squares indicate pattern warps that must be in the upper layer for the pattern, while white squares represent pattern warps that must be in the lower layer. To make each pick-up, open the shed indicated and use your fingers or shuttle to arrange the pattern threads as shown for the row. Some pattern rows will require a pattern warp to be lifted from the lower layer (colored squares with dots) or pushed down from the upper layer (white squares with dots).

③ **Plain-weave bands** Begin weaving, manipulating the warp by pressing the unheddled threads up and down in the same manner the spacers were inserted. When 15" of band (or desired length) have been completed, break the weft.

Pick-up bands Begin weaving, manipulating the warp by pressing the unheddled threads up and down while also following the *pick-up pattern*, reading the chart from bottom to top. The chart shows only the pattern threads; the pattern threads (green and yellow) are manipulated with pick-up techniques. Continue working the pattern repeat until about 14¾" of band (or desired length) have been woven and ending on pattern row 9. Repeat border rows a, b, and c. Break weft. (Sample shows 21 pattern repeats. Your band may differ, which is not a problem for this project.)

④ Using a darning needle, carefully sew the weft into the band fabric two or three picks from the end. Sew in the other end of the weft in the same way. Insert spacers as before, leaving a 6"–6½" gap for fringe (measured without tension). Weave second band as the first.

⑤ Cut the woven length from the loom and remove any spacers. Cut the bands apart, allowing 3" at each end of each band. Lightly steam-press bands and braid fringes if desired. Sew the bands in place to the top edge of the knitted bag. Bands can be sewn inside the top edge to keep fringe tucked inside (as shown on plain-weave band), or the bands can be sewn to the outside edge to allow fringe to be visible (as shown on pick-up band).

⑥ Pack your little bag with spinning wheel oil, orifice hook, scissors, diz, or any small tools you often need while at your wheel. ●

Weaving Pick-up on an Inkle Loom

Odd-numbered picks (and border pick b) are made by raising the unheddled threads, and even-numbered picks (and border picks a and c) are made by lowering the unheddled threads. Open the next shed with your fingers and look at the chart. Pick up any pattern threads needed from the lower layer and drop any pattern threads from the upper layer that are not shown on that chart row. Do not pick up or drop any background threads—just ignore them. Holding the modified shed open with your fingers, beat the previous row and then pass the shuttle through. When a small loop of weft remains to be pulled through the shed, give it a tug to straighten the previous pick, then pull the weft through until it snugs up to the warp.

Tips for Better Bands

Darning needle

There are several ways to secure the weft at the beginning and end of the band. When working with woolen warps or mixed warps of wool and cotton or linen, I find it useful not to secure the weft until the band is completed. A thin, sharp needle with an eye just large enough for your weft, such as a darning or chenille needle, can be used to weave the weft in place after the band is woven but still under tension on the loom.

RESOURCES

Dixon, Anne. *The Weaver's Inkle Pattern Directory.* Loveland, Colorado: Interweave, 2012.

Patrick, Jane. *Inkle Weaving A to Z: The Basics and Beyond* (video). Loveland, Colorado: Interweave, 2013.

Torgenrud, Heather. *Norwegian Pick-Up Bandweaving.* Atglen, Pennsylvania: Schiffer, 2014.

Pick Up a Band of Chevrons

BY HEATHER TORGENRUD

USING AN INKLE LOOM FOR PICK-UP BANDS LEAVES BOTH HANDS FREE TO WORK THE PATTERN, AND BANDS WITH PATTERN AREAS AS NARROW AS SEVEN ENDS OFFER A SURPRISING VARIETY OF DESIGNS.

My favorite technique for patterning on the inkle loom is pick-up weaving on a staggered setup. With both mind and hands engaged in developing the pattern on each row, it's absorbing to weave, and I like the rich, embossed appearance of its diamond-based designs. When I make narrow bands for clothing trim, hatbands, or bookmarks, I often add a border containing a third color on each side of the band and restrict the pattern area to only about half the total width. Although this limits patterning possibilities, it's surprising how many interesting designs can be created with just a few pattern ends. If you're new to pick-up weaving, narrow bands, such as the bookmarks shown opposite are an excellent way to practice the technique before moving on to wider, more intricately patterned bands.

The staggered threading alternates a heavier pattern end with two finer background ends, so that the pattern ends appear alternately on each plain-weave shed. The odd-numbered pattern ends are on one shed, and the even-numbered pattern ends are on the other shed.

PATTERNING

On a background of staggered dots, designs are created by manipulating the pattern ends on the upper and lower levels of both sheds. Pick-ups bring pattern ends up from the lower level to elongate pattern floats on the face. Push-downs thrust pattern ends down from the upper level to eliminate dots around motifs on the face. The two manipulations are complementary in that they form an opposite negative pattern on the back of the band. The weft shows on the face above push-downs, so the weft color usually is chosen to match the background warp.

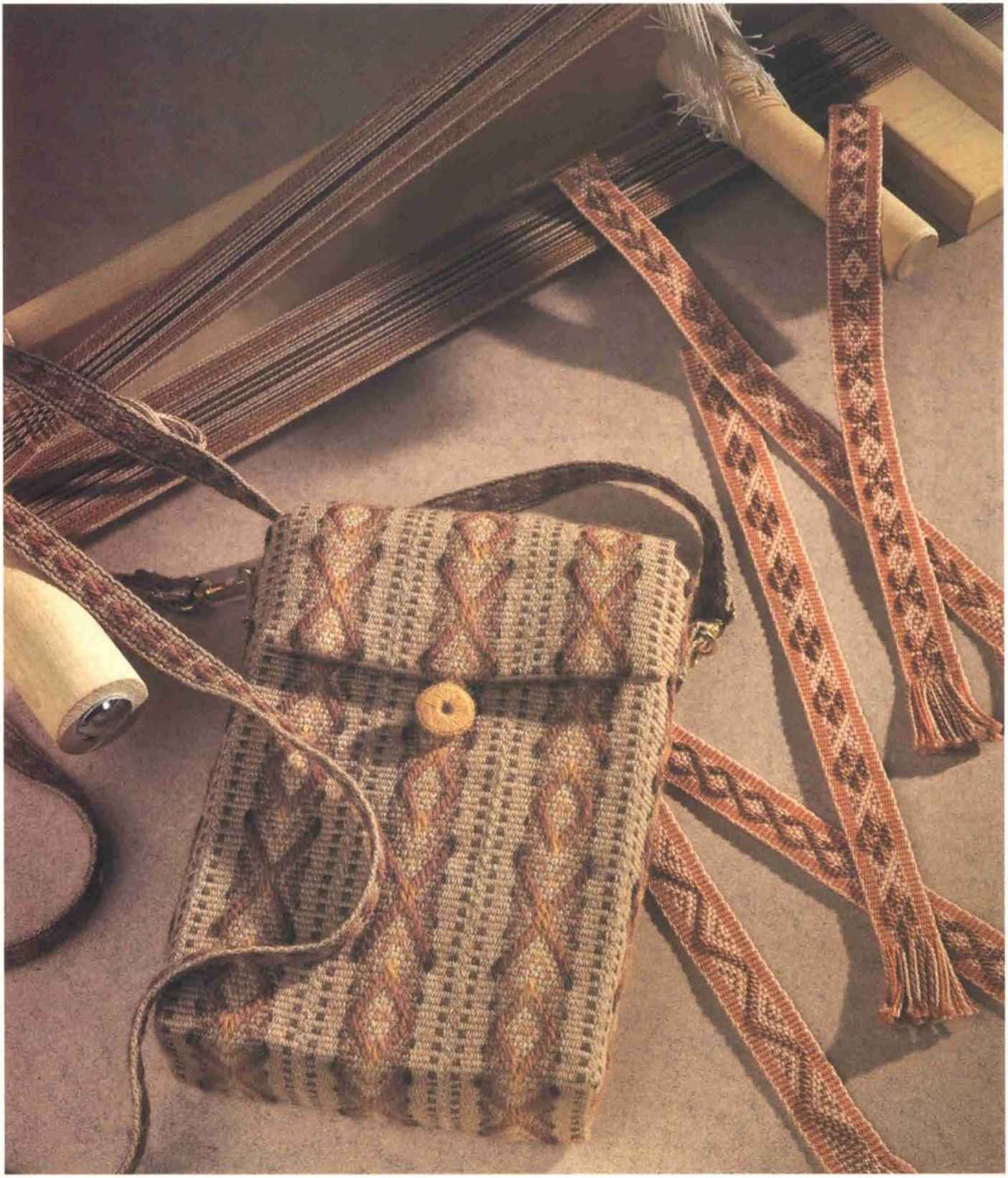
Notice that the pattern draft begins with a few rows of plain weave shown by the staggered dots of the pattern ends. Also note that a pattern float is three rows long: a plain-weave row, a pick-up row, and a plain-weave row. The first and third rows happen automatically with the plain-weave shedding; the only row you need to pick up is the middle one.

PICK-UPS

When you are ready for a pick-up (the middle row of a three-row float with the pattern end on the lower shed), beat the previous row but do not take the weft across. To pick up a pattern end, hold the shed open with both hands, with your fingers in the shed and thumbs on top. Separate the ends in the upper shed on either side of the pattern end, reach down with an index finger, and pick up the pattern end. Slip out one hand so that the altered shed is held with the hand opposite the shuttle, and take the weft through. Change sheds, beat. Notice that the pattern end is in the upper shed for its third row. On this shed, pick up any pattern ends for which this is the middle row, most likely the pattern ends to one or both sides of the previous pick-up. Continue in this way as indicated by the draft. Occasionally, a pattern end floats over five rows at the center of a pattern in which case you will do pick-ups on rows 2 and 4. I generally avoid floats longer than five rows as they tend to sag and catch.

PUSH-DOWNS

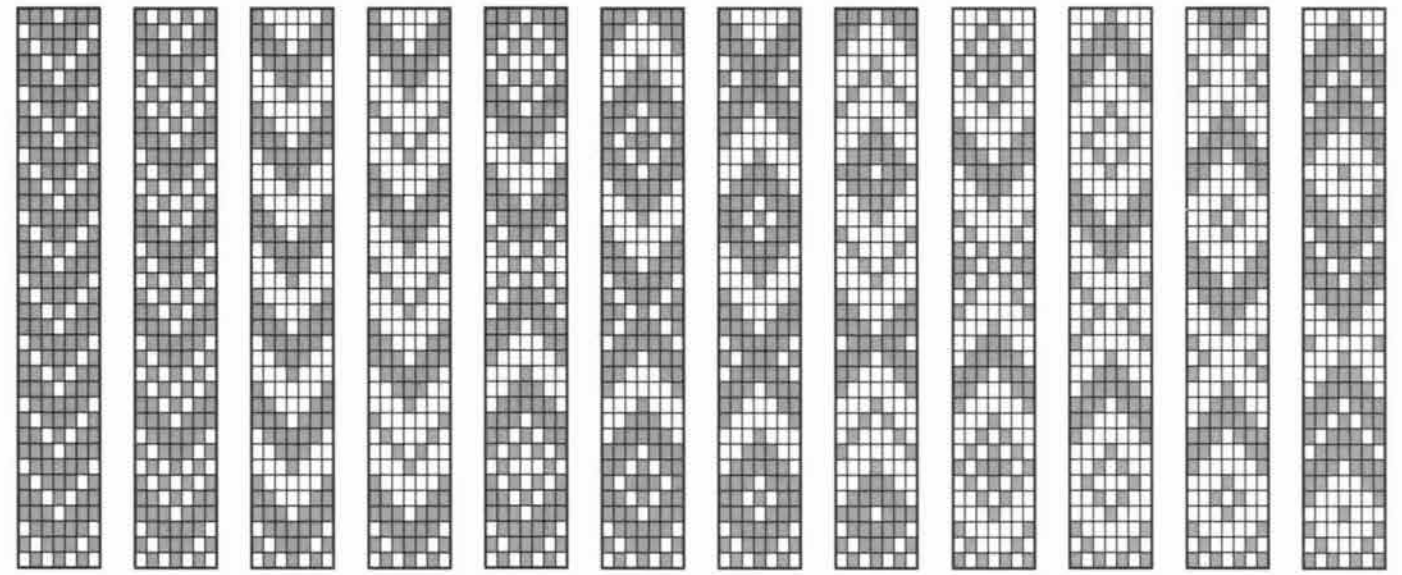
Push-downs are the opposite of pick-ups. On the pattern draft, a push-down is the middle row of a three-row solid background area (other background areas have the staggered dots of plain weave). When you are on a shed which is the middle row of a solid background, separate the pattern end in the upper shed from the adjacent ends and push it down or let it drop. Check whether you need to do any



Photos by Joe Coca

An inkle loom is a wonderful tool for weaving bands with pick-up patterns. Heather Torgenrud finds that even a narrow band with seven pattern ends offers opportunity for a wealth of designs.

Woven samples (with their pattern drafts below) show a wide variety of designs on seven pattern ends.



Sample 1 Sample 2 Sample 3 Sample 4 Sample 5 Sample 6 Sample 7 Sample 8 Sample 9 Sample 10 Sample 11 Sample 12

DESIGN POSSIBILITIES

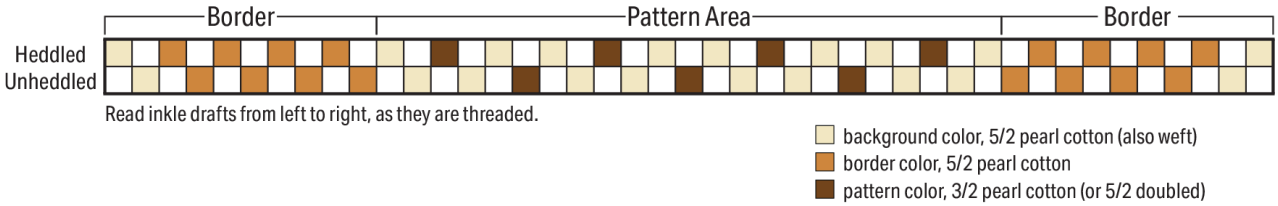
The bookmarks, shown on page 14, woven using 5/2 pearl cotton for the background and 3/2 pearl cotton for the pattern ends, are an excellent project for exploring design development. Along with the bookmarks, the samples shown above illustrate several aspects of pattern development using the chevron. Both the bookmarks and samples use the seven-end pattern draft shown in Figure 1. The first four samples show how the area around motifs can be varied. Designs with virtually no background are formed by stacking motifs one after the other, as shown in Sample 1. In Sample 2, a dotted background is formed by leaving dots or areas of plain weave around motifs. A solid background is formed by pushing down pattern ends before they form dots around motifs, as in Sample 3. Sample 4 shows that leaving a pattern of dots in a solid background area eliminates long floats on the back of the fabric.

The next four samples show how diamond motifs change in size and shape depending on whether they are unconnected at the edges (Sample 5) or pivot on the first, second, or third pattern end from the edges (Samples 6–8). The last four samples show how the back of the fabric is a reverse image of the face and can be used as a pattern in its own right (Samples 9 –12 are the backs of Samples 5–8).

Placing horizontal lines in certain areas is easy if you don't mind forcing pattern ends up or down out of step with the staggered rhythm of the threading. However, I find that such "forced" designs are not relaxing to weave.

Editor's note: The original version of this pattern included a threading draft with a error, which we have corrected in this edition.

Figure 1. Threading draft for bordered band with seven pattern ends.



pick-ups on this row (pick-ups and push-downs often occur on the same row) and do them also before passing the weft through.

Pattern drafts for this type of weaving are easier to understand if you consider floats and dots in terms of their relationships to each other. Taking the first pick-up as a point of reference, notice how the design develops in relation to it. Pattern areas weave slightly narrower than plain-weave areas because the pattern ends float on the surface.

MAKING PATTERN DRAFTS

To begin, define the pattern area on graph paper in pencil. For example, if your warp contains seven pattern ends, mark off a space seven squares wide. Because chevron-based motifs require a center warp, you'll need an odd number of pattern ends. You don't need to mark any of the background ends.

Drafting can be approached in one of two ways. For the first method, shade plain-weave squares. To create a warp-float motif of three rows, shade the square between two squares; to create solid background areas of three rows, erase a square. To avoid long floats, limit floats and solid background areas to a maximum of five rows.

For the second method, shade in a motif first, and then shade plain-weave squares around it as desired. Both floats and dots must be separated vertically by an odd number of rows unless you're planning a "forced" design.

For ideas, look at examples of Scandinavian bandweaving or play with diagonals and diamonds on graph paper. You're sure to be intrigued with the pattern possibilities, which increase in richness and complexity as more pattern ends are added.

Color gradations in the warp, like those used in the **Little Purse,** shown on page 14, open up a whole new avenue for exploration, adding depth and visual interest to even the simplest geometric patterns. ✦

HEATHER TORGENRUD *has been teaching inkle-weaving classes for almost twenty years. She weaves and knits in her studio near St. Ignatius, Montana.*

Project | DOUBLE-SLOTTED RIGID-HEDDLE

Patterned Bands *from the* Sámi Weaving Tradition

SUSAN J. FOULKES

These bands can also be woven on an inkle loom. You can find the inkle-weaving directions for these bands on page 20 of this eBook. Anne Dixon's excellent book, *The Weaver's Inkle Pattern Directory* also contains many patterns and instructions for the Baltic-style warp-faced bands.

Photos by Joe Coca

STRUCTURE

Baltic-style pick-up on a warp-faced half-bas-ketweave ground.

EQUIPMENT

Sunna double-slotted rigid heddle; band lock; belt; C-clamp or warping peg; needle or floss threader; Sámi curved shuttle or netting shuttle.

YARNS

Warp: 5/2 mercerized pearl cotton (2,100 yd/lb), white, 112 yd; red, 120 yd; blue, 28 yd; green, 14 yd. (Note: Pattern warps are doubled ends; ground and border warps are used singly.)
Weft: 5/2 mercerized pearl cotton, white, 15 yd.

WARP LENGTH

78 ends (52 single ends; 13 doubled ends) 1¾ yd long following the warp color order and threadings in Figures 1, 2, and 3 (allows 4" for take-up, 35" for loom waste; loom waste includes fringe).

DIMENSIONS

Weaving width: approximately 1½".
Weft: 12 ppi.
Woven length: 24" (3 pieces 8" each plus fringe).
Finished size: 3 bookmarks 1½" x 8" plus ½" fringe at each end.

I love weaving narrow patterned bands from the Baltic area. I am amazed at the inventiveness and creativity of the weavers who produced such a never-ending variety of patterns—without pattern books!

For this project, I chose a pattern originally from a Sámi man's shoe band from Kautokeino in Norway. The pattern and colors indicate the band's origin and its use. These long shoe bands are both decorative and practical. They are tied around the top of short boots and act as puttees (gaiters) to prevent snow getting inside. One end of the band is usually finished with a square of red woolen material and a plait with a tassel. The other end of the band is completed in the same way but the plait is longer with a larger colorful tassel. The instructions are for weaving three bookmarks; however, if a finer thread is used, the band could serve other purposes, such as a lanyard or a bag strap.

WEAVING BALTIC-STYLE PATTERNS

In Sámi tradition, these bands are woven with a rigid heddle using a body-tensioned arrangement. The bands are warp-faced, with the weft pulled tightly to bring the warp ends close together. The structure of these woven bands consists of two background threads between each thicker pattern thread. If the pattern threads are excluded, the basic weave structure is half-basketweave.

The Sunna (double-slotted) heddle is designed to be used for pick-up patterning: when the heddle is raised or lowered, the pattern threads form a separate layer between the two layers of the background warp threads, and the pattern threads that are needed on the surface are picked up with the tip of the shuttle.

RESOURCES

Dixon, Anne. "Baltic-Style Patterns." *The Inkle Weaver's Pattern Directory*. Loveland, Colorado: Interweave, 2012, pp. 61–82.

Stoorstålka (www.stoorstalka.com) is a Sámi company that produces the double-slotted heddle (the Sunna heddle) and the curved shuttle.

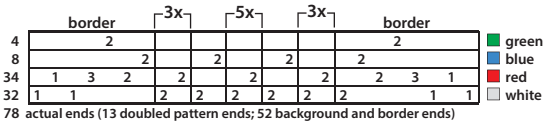
The band lock is available from Vävstuga (www.vavstuga.com) and Vävkompaniet (www.vavkompaniet.se).

1 For the double-slotted heddle used with backstrap setup, arrange a 1¾ yd guide string around a warping board and wind the warp following the warp color order in Figure 1. Thread the warp ends into the double-slotted heddle as shown in Figure 2. Doubled pattern threads are threaded together through the shorter slots. In between each pattern thread are 2 background threads. A needle threader (or nylon floss threader) is useful for threading through the holes in the heddle.

2 Attach one end of the warp to a warping peg or C-clamp. The other end is fastened to the band lock or otherwise clipped onto a belt around the waist so that the warp is weaver tensioned. When tying the warp onto the band lock or belt, you will need to adjust the warp until the warp ends are all at the same tension and the heddle is level when resting on the warp. (If you neglect this adjustment, your band may turn out banana-shaped!)

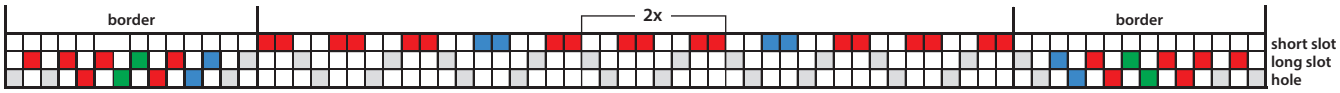
3 To space the warps and create a base against which to beat, weave picks b, c, and d from the chart in Figure 3 with spacers or a thick thread. Note that to make each shed, you will need to pick up pattern threads from the center pattern layer according to the chart.

1. Warp color order



78 actual ends (13 doubled pattern ends; 52 background and border ends)
Red and blue threads in between borders are pattern threads and are used doubled.

2. Draft



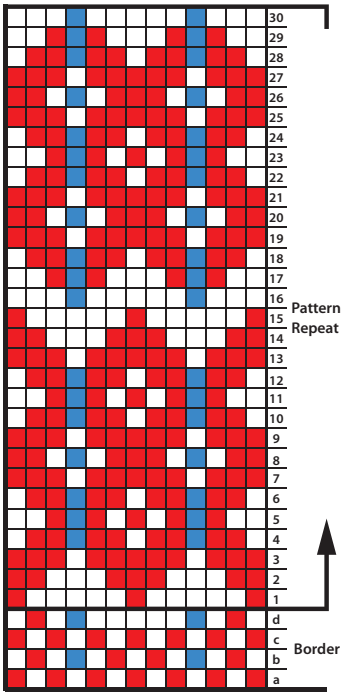
Pattern threads are made of 2 warp threads, and are placed together in the shorter slots.

3. Pick-up chart

To weave with a double-slotted heddle:
Odd-numbered picks (and a and c) are made by raising the heddle, and even-numbered picks (and b and d) by lowering the heddle. Open the shed. There will be 3 layers, with the pattern threads forming the middle layer. Insert the shuttle to separate the pattern threads into upper and lower layers, using the tip to pick up pattern threads represented by colored squares on the chart, and skipping over pattern threads represented by uncolored squares. Check the selection and beat with the shuttle. Leaving the shuttle in the shed, adjust the weft from the previous pick. Check the width of the band, and take the shuttle through the shed, leaving a loop of 1".

Only pattern threads are shown in the chart. Each square represents one 2-strand pattern thread.

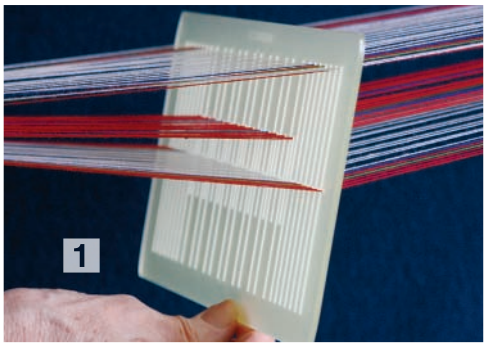
Read the diagram from bottom to top as it is woven.

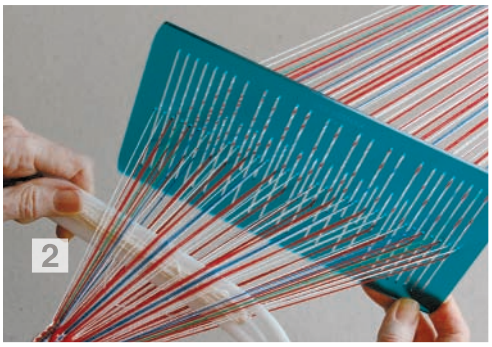


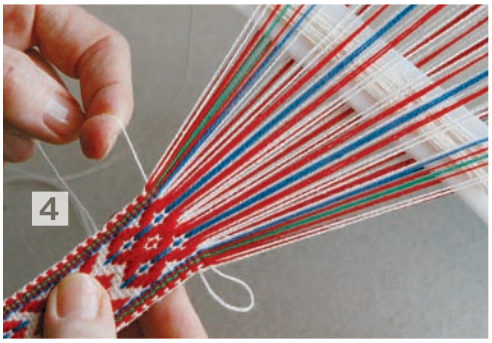
Weave Plan:
For each bookmark, weave rows a–d, then rows 1–30 three times. End by weaving rows d–a.

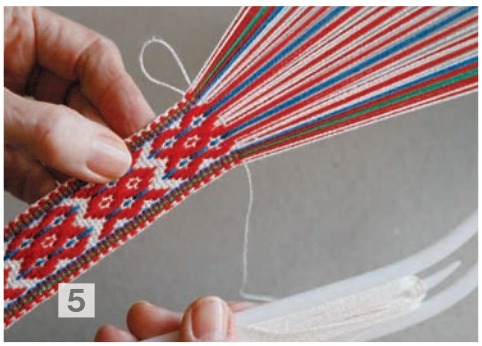
Doubled pattern end that is picked up for pattern

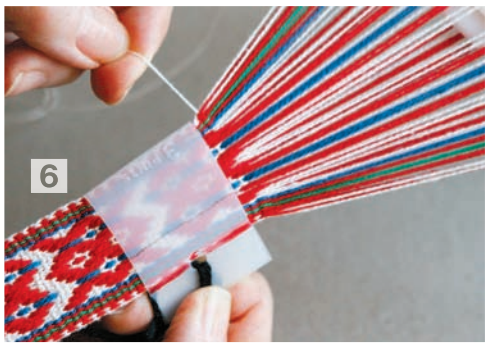
Doubled pattern end that is lowered for pattern









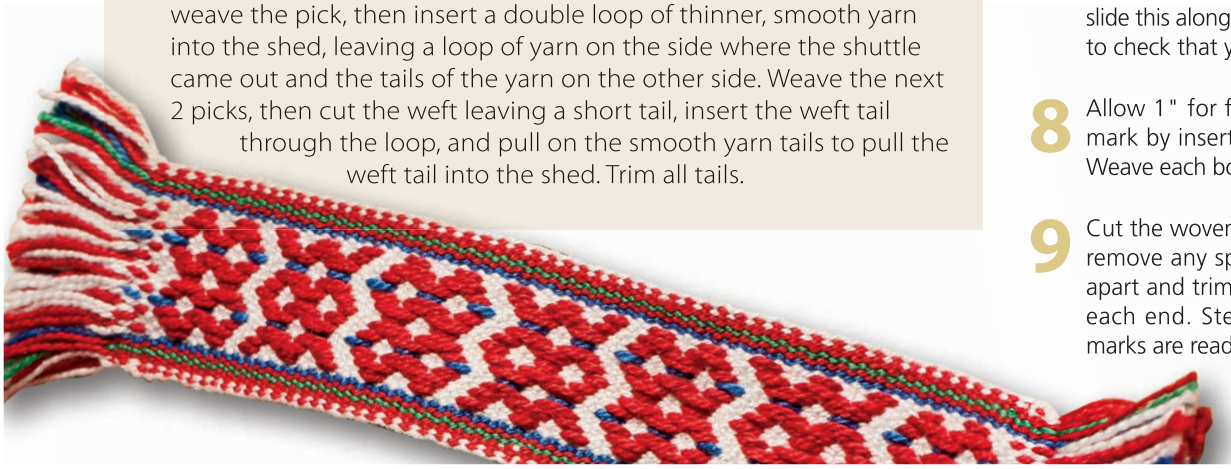


TIP

Securing Weft Ends

To secure the weft at the beginning of a band, on the first pick, leave a long tail and finish the next pick by inserting the tail into the shed from the opposite side from the working weft. Repeat for the next 2 picks, then trim the weft tail.

To secure the weft at the end of a band, on the 3rd-to-last pick, weave the pick, then insert a double loop of thinner, smooth yarn into the shed, leaving a loop of yarn on the side where the shuttle came out and the tails of the yarn on the other side. Weave the next 2 picks, then cut the weft leaving a short tail, insert the weft tail through the loop, and pull on the smooth yarn tails to pull the weft tail into the shed. Trim all tails.



4 Wind a belt shuttle or a Sámi curved shuttle with weft. (The white weft is the same thickness as the background threads.)

5 Weave each bookmark, following the pick-up chart in Figure 3. Read the chart from the bottom up, as it is woven.

Note that odd-numbered picks and picks a and c are made by raising the heddle, while even-numbered picks and border picks b and d are made by lowering it. Raising or lowering the heddle affects only the border and background threads; the pattern threads form a third layer between the others, which must be picked up or skipped over according to the chart.

6 To weave using the double-slotted heddle:

- Open the shed by raising or lowering the heddle (photo 1).
- Insert the shuttle and pick up the correct pattern threads with the tip (photo 2).
- Check the selection and beat (photo 3).
- Leave the shuttle in the shed and adjust the weft from the previous pick. Check the width of the band (photo 4).
- Take the shuttle through, leaving a loop of about 1" (photo 5).

7 After you have woven an inch or two, you can decide how wide you wish your band to be. There is no absolute measurement. The width of the band depends upon how tightly you adjust the weft, how hard you beat, and the thickness of the weft. I use a small folded rectangle of plastic to check the width of my band as I am weaving. (photo 6). Cut the rectangle out of any transparent or semitransparent plastic. Fold it and punch two holes in the short edge. Tie a length of thread to one hole. When you are happy with your width, fold the plastic around the woven band. Tie the guide to the band and mark a line down the side of the plastic guide. You can then slide this along the woven part of the band to check that your width is even.

8 Allow 1" for fringe between each bookmark by inserting spacers or waste yarn. Weave each bookmark as for the first one.

9 Cut the woven length from the loom and remove any spacers. Cut the bookmarks apart and trim the fringe, allowing ½" at each end. Steam-press and your bookmarks are ready to use.

Patterned Bands from the Sámi Weaving Tradition

SUSAN J. FOULKES

PHOTOS BY JOE COCA

STRUCTURE

Baltic-style pick-up on a warp-faced half-basketweave ground.

EQUIPMENT

Inkle loom, with 33 string heddles; 1 belt shuttle.

YARNS

Warp: 5/2 mercerized pearl cotton (2,100 yd/lb), white, 112 yd; red, 120 yd; blue, 28 yd; green, 14 yd. (Note: Pattern warps are doubled ends; ground and border warps are used singly.)
Weft: 5/2 mercerized pearl cotton, white, 15 yd.

WARP LENGTH

78 ends (52 single ends; 13 doubled ends) 1¾ yd long following the warp color order and threadings in Figures 1, 2, and 3 (allows 4" for take-up, 35" for loom waste; loom waste includes fringe).

DIMENSIONS

Weaving width: approximately 1½".
Weft: 12 ppi.
Woven length: 24" (3 pieces 8" each plus fringe).
Finished size: 3 bookmarks 1½" x 8" plus ½" fringe at each end.

The instructions for weaving these bands with a SUNNA rigid heddle are in *Handwoven* Mar/Apr 2013 and page 17.

When these bands are woven on an inkle loom, both pattern threads and the finer background threads appear in each layer of an open shed, but only the pattern threads are picked up. Baltic-style pattern pick-ups usually involve both picking up pattern threads from the lower layer of a shed and depressing pattern threads from the upper layer. In the pick-up chart in Figure 2, dotted squares represent pattern threads originally in the upper shed layer for that pick-up. Colored squares (with or without dots) represent pattern threads that must be in the upper layer for the pattern, and white squares represent those pattern threads that must be in the lower layer.

1 For an inkle loom, use a guide string to measure 1¾ yd around the pegs and the loom's tensioner, making sure the tensioner is well extended to allow for take-up. Following the draft and color order in Figure 1, warp the inkle loom and place the heddles.

2 To space the warps and provide a base against which to beat, insert two ½" x 2" cardboard spacers as follows: Press down on the unheddled threads so that the heddled threads form the upper layer of the warp and insert the first spacer. Change sheds by pushing up the unheddled threads over the heddled threads so that the unheddled threads are the upper layer and insert the second spacer.

3 Wind a belt shuttle with weft.

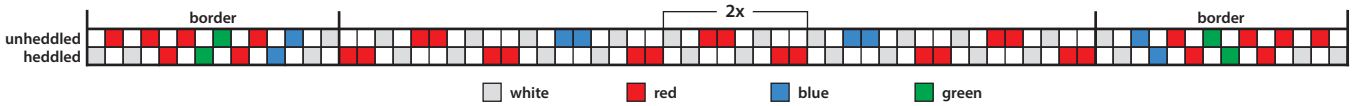
4 Weave each bookmark, following the pick-up chart in Figure 2. Read the chart from the bottom up, as it is woven. Note that odd-numbered picks and picks a and c are made with heddled threads up, while even-numbered picks and border picks b and d are made with unheddled threads up. (Note that on row d, two pattern threads in the center of the upper layer need to be pushed down into the lower layer.)

5 To prevent the weft from raveling, weave the starting border (picks a–d) as follows: Move the heddled threads up for row a, and insert the weft into the shed leaving a long tail. Place the unheddled threads up (row b), insert the weft and pass the tail through the shed in the opposite direction (2 wefts in the same shed). Repeat for picks c and d to secure the thread.

6 Weave 3 repeats (6 motifs) of the pick-up pattern, following the chart in Figure 4. The chart shows only the pattern threads, because background threads remain in their natural positions. On an inkle loom, pattern threads will appear in both layers of a natural shed. On the chart, squares containing a dot represent pattern warps naturally in the upper layer of the shed, while those without a dot are in the lower layer. Colored squares indicate pattern warps that must be in the upper layer for the pattern, while white squares represent pattern warps that must be in the lower layer.

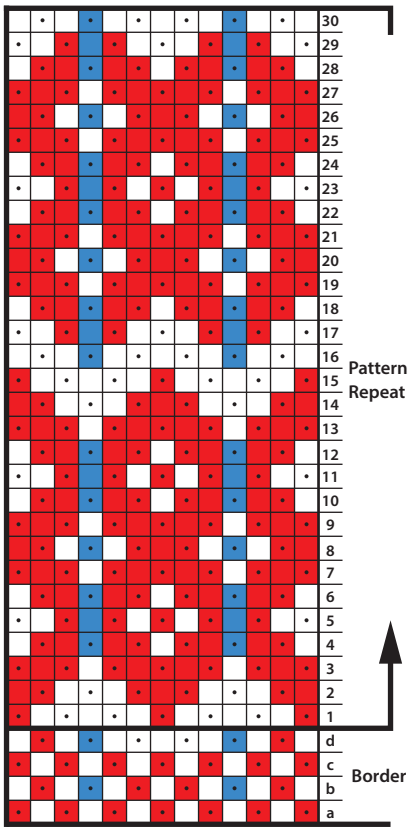
To make each pick-up, open the shed indicated (heddled threads up for odd-numbered picks; unheddled threads up for even-numbered picks) and with your fingers, arrange the pattern threads as shown for the row. It will usually be necessary both to lift pattern warps (colored squares without dots) from the lower layer and to push down pattern warps (white squares with dots) from the upper layer. Holding the shed open with your fingers, insert the shuttle and beat to set the previ-

1. Inkle Draft



Read inkle pattern, and warp the loom from left to right. Doubled threads are pattern threads, and are handled as one in heddes and for pick-up.

2. Pick-up Chart



Weave Plan:
For each bookmark, weave rows a–d, then rows 1–30 three times. End by weaving rows d–a.

To weave on an inkle loom:

Odd-numbered picks (and a and c) are made by raising the heddled threads, and even-numbered picks (and b and d) by raising the unheddled threads.

To raise the heddled threads, push the unheddled threads down. To raise the unheddled threads push the unheddled threads up.

Open the shed, and with your fingers, pick up any colored pattern threads from the lower layer, and drop any uncolored threads from the upper layer. Use the key below to identify which pattern threads need to be in each layer for each pick-up. Do not alter the position of any background threads.

Holding the shed open with your fingers, insert the shuttle and beat, then leaving the shuttle in, tug the weft from the previous pick into place.

- Pattern thread in upper layer that stays there for pattern
- Pattern thread in upper layer that is pushed down for pattern
- Pattern thread in lower layer that is picked up for pattern
- Pattern thread in lower layer that stays there for pattern

Only pattern threads are shown in the chart. Each square represents one 2-strand pattern thread.

Read the diagram from bottom to top as it is woven.

Picks a–d weave the border; picks 1–30 the pattern repeat.

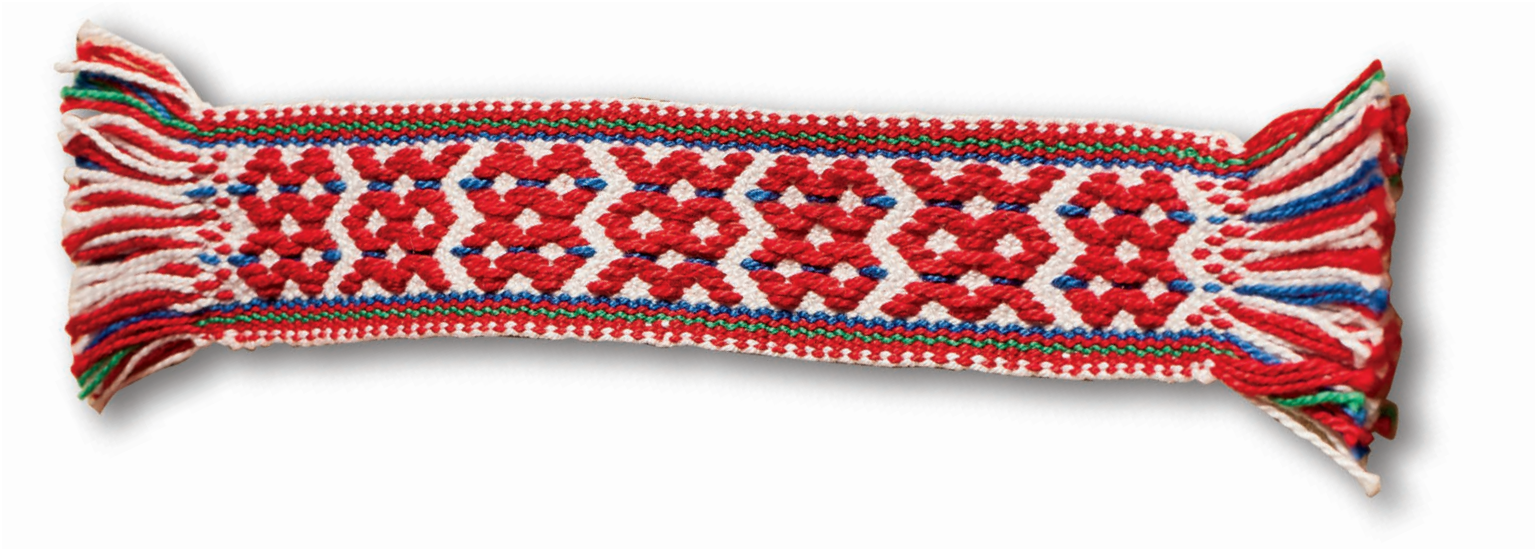
Colored squares represent pattern threads that need to be in the upper layer of the shed for that row.

ous pick. Leaving the shuttle in place tug the weft from the previous pick into place for a firm, even edge.

7 After weaving the last repeat of the pattern, weave the border and secure the weft as follows: weave pick d. On pick c, raise the heddled threads, pass the shuttle through and place a doubled length of smooth yarn into the shed with the loop on the same side the shuttle emerged. Weave picks b and a. Cut the weft, leaving a tail, insert the weft through the loop of smooth yarn, and use the loop to draw the tail of weft through pick c, securing it.

8 Allow 1" for fringe between each bookmark by inserting spacers or waste yarn. Weave each bookmark as for the first one.

9 Cut the woven length from the loom and remove any spacers. Cut the bookmarks apart and trim the fringe, allowing ½" at each end. Steam-press and your bookmarks are ready to use.



Dyed tussah handspun woven two ways: inkle *(top)* and backstrap-style with a rigid heddle *(bottom)*.

Photos by Matt Graves

Testing Tussah

Two Ways to Spin and Weave a Band

DEVIN HELMEN

Tussah is one of my favorite silks to spin, and it is also a type of silk I recommend to new silk spinners. Tussah, or tassar, is wild silk with a naturally creamy color and a more textured, grippy feel than fine, bright-white cultivated silk. In the hand, tussah is not as slippery as cultivated silk, which makes it more forgiving to the beginning silk spinner.

While I prefer the character of wild silks, a weaver friend prefers the full shine and drape of cultivated silk and describes tussah yarns as more cotton-like. I find the hand of my tussah yarns to be more like a midway point between cotton and silk—tussah has much of the shine and softness of cultivated silks, but it clings to itself while spinning and does have more of a matte feel to it, similar to cotton. Tussah handspun often feels like it has more loft and less density, which can make it a better fit for some textile uses.

Tussah, also called tassar, is a wild silk.

How would tussah hold up to the high tension and abrasion of warp-faced bandweaving, such as inkle and tablet weaving?

Most importantly to me, tussah is the easiest for me to spin with my normal semi-supported long draw from the fold. I pull off a section of silk combed top about a handspan in length, fold it in half, and spin from the folded place. I let the twist into the drafting triangle to help form the yarn, but I also manage and smooth the yarn as I draft. I learned to spin silk top this way from Sara Lamb (see Resources), and I still spin it long draw from the fold today. Not only does this feel easier on my body but it is fast for me and makes a yarn I like. And, as Sara Lamb demonstrated in her many samples, I do not see any diminution of the shine or function of the yarn, even when spinning cultivated silk.

Every fiber has pros and cons, and our opinions as spinners often depend on what we are using our yarns to create. Knitting yarns and weaving yarns need to perform in different ways. However, I also think it is important for us to question our assumptions, create samples, and do the work.

PUTTING TUSSAH TO THE TEST

While discussing silk-drafting techniques with friends, two questions came up: "How would tussah hold up to the high tension and abrasion of warp-faced bandweaving, such as inkle and tablet weaving?" and "Does drafting technique impact tussah's success in bandweaving?" I decided to test it out.

I pulled some tussah top out of my stash in two different colors—Millet (a blue-green) and Fir (a very dark green)—both of which I got many years ago from

Some friends thought the yarn spun with long draw would not hold up as well to the high tension and abrasion of an inkle loom. I did not find this to be a problem; it was my short-draw yarn that caused abrasion and sticking.

Opulent Fibers. I spun the blue-green silk in my normal way (semi-supported long draw from the fold) and then plied it. The resulting yarn was what I expected—my standard fine, evenly spun two-ply.

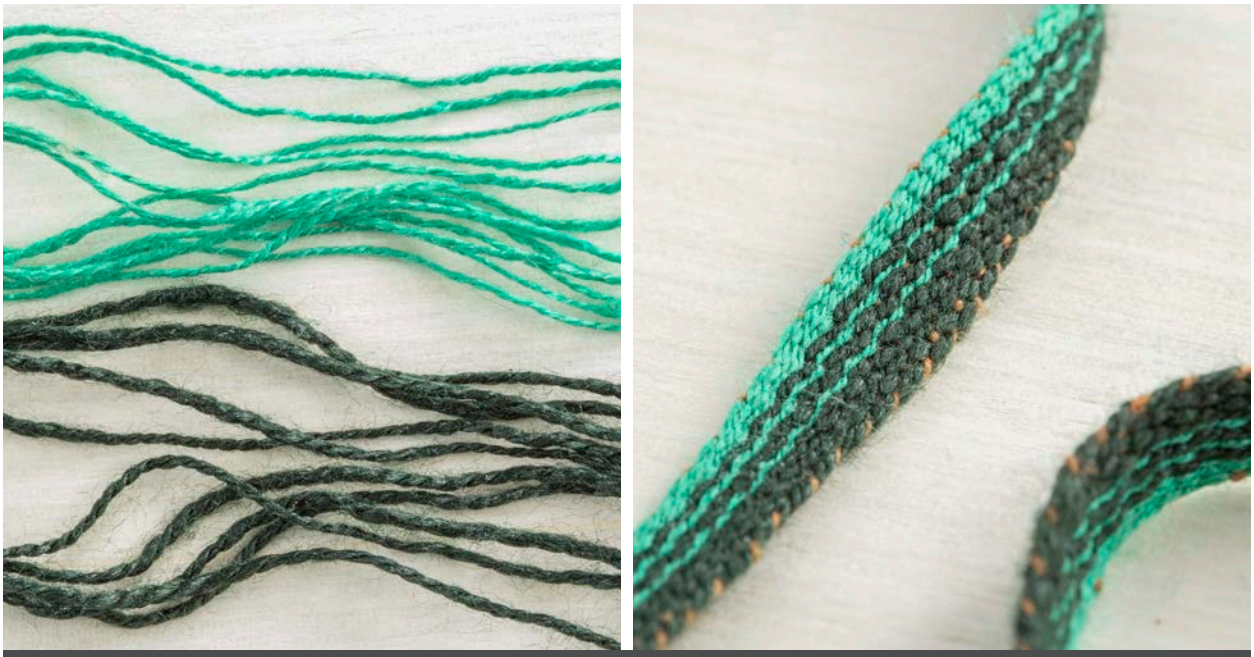
Next, I spun the dark green silk with a short draw from the end of the silk top, making sure that the fibers were aligned, and then plied. As I spun the singles, I found the drafting to be annoying and difficult, largely because this is not my preferred and practiced way of spinning. This silk needed more attention and effort to keep the fibers aligned and prevent unwanted slippage. I ended up with a less evenly spun and slightly thicker two-ply yarn. I skeined both yarns, soaked them in warm, soapy water, rinsed in cold water, wrung them out, and hung them unweighted to dry.

I believe the differences in the yarns are due mostly to my comfort with one drafting style over another. I prefer the look (and the spinning experience) of the long-draw yarn, but how would the two compare in use?

I warped an inkle loom with a narrow band using the two yarns and wove that sample. During the original discussion of drafting techniques, some friends thought the yarn spun with long draw would not hold up as well to the high tension and abrasion of an inkle loom. I did not find this to be a problem, and, if anything, it was my short-draw yarn spun from the end that caused abrasion and sticking.

I made another sample, this time using a small rigid heddle and a backstrap weaving technique. This setup places less constant tension on the warp and holds the warp threads in a spaced alignment. This creates less of the abrasion that can occur on an inkle loom where the threads are in closer contact. In this

Inkle looms *(left)* typically function by anchoring every other thread with a heddle, keeping the warp closely spaced. Rigid heddles used with backstrap weaving *(right)* space the warp threads through a series of slots and holes. Shown here: Treenway Silks dyed tussah (see page 29), Ashford Inklette, and Dancing Goats cherry rigid heddle.



Devin used two spinning techniques to create samples. The light-green sample was spun with a semi-supported long draw from the fold, and the dark-green sample was spun with a short draw from the tips of the combed top.

second sample, I did not notice an issue in how the two yarns acted as I wove them.

RESULTS

My conclusion is that there is no difference in how tussah silk yarns act during weaving based on drafting technique; what matters is the spinning itself. I have spun many hundreds of yards of silk using my preferred technique, and that is what I am most comfortable with. Short draw from the end of the top is not something I have practiced a lot, nor is it something I find physically comfortable; it creates too much tension in my hands and takes too much attention to make a smooth, even yarn. Even when paying close attention, I did not produce a yarn I was particularly happy with. Both yarns, though, wove up well and did not create any real problems. This reinforces my belief that, for most (if not all) spinning questions, the answer is to try it for yourself.

I will continue to spin tussah silk and all silk combed tops in the way that is most comfortable and familiar to me—supported long draw from the fold. I know this will produce a yarn that I can use for whatever purpose I want and will provide me with a good spinning experience. I can be confident in this because I did the experiment.

Ideas about "proper technique" can become enshrined as fact, but I find spinning to be highly personal and dependent on the spinners themselves. What might be a fact for one spinner will not be for all spinners. Experiment, test your yarns, and make up your own mind. The best teacher for how a yarn will act is real-life experience.

There is no difference in how tussah silk yarns act during weaving based on drafting technique; what matters is the spinning itself.

Curious about weaving colorful handspun silk ribbons with a rigid heddle? Find Devin's how-to project on page 27.

Resources

Lamb, Sara. *Spinning Silk: Sensuous, Successful Yarns from Luxurious Silk*. Video. learn.longthreadmedia.com.

Selk, Karen. *In Search of Wild Silk: Exploring a Village Industry in the Jungles of India*. Atglen, PA: Schiffer Craft, 2023.

Devin Helmen has been immersed in fiber since learning to spin at age eight. They spin, knit, and weave in beautiful Minnesota. Devin enjoys writing and teaching about fiber arts and has a passion for spindles and everyday textiles. They blog, intermittently, at afewgreenfigs.blogspot.com.

Photos by Matt Graves

Weave your laces! *Shown:* Ashford Inklette and Treenway Silks dyed tussah combed tops

Northwoods Handspun Tussah Shoelaces

DEVIN HELMEN

Put your beautiful handspun to work! This project lets you showcase variegated dyed silk tops without needing to spin large amounts or worry about how best to spin the silk to capture color successions. When I found this tussah silk top from Treenway Silks, I loved that the colors reminded me of the Northwoods of Minnesota—the blue of the lakes and skies and the greens of the white and red pines.

SPINNING NOTES

I unrolled the dyed tussah combed top and pulled it apart into three piles: one that was a deep blue (Color A), one that was a bright and clear green (Color B), and one that combined both blue and green into a somewhat teal shade (Color C). No division of variegated roving or top will ever be exact, especially with such a high-quality, long-staple silk top. I don't worry too much about precision, and I'm happy as long as the majority of each pile is of the specific color. Once spun, I notice the small variations more as an interesting heathered effect rather than a jarring splotch, especially in plied yarn. The variegation is what adds so much depth to this kind of project.

I spun each color separately, but unlike my sample bands (see page 23), I exclusively used a semi-supported long draw from the fold. This technique is smooth and comfortable to spin on my HansenCrafts miniSpinner Pro using the lace flyer and medium-high speed. I plied on the same spinner with the same settings.

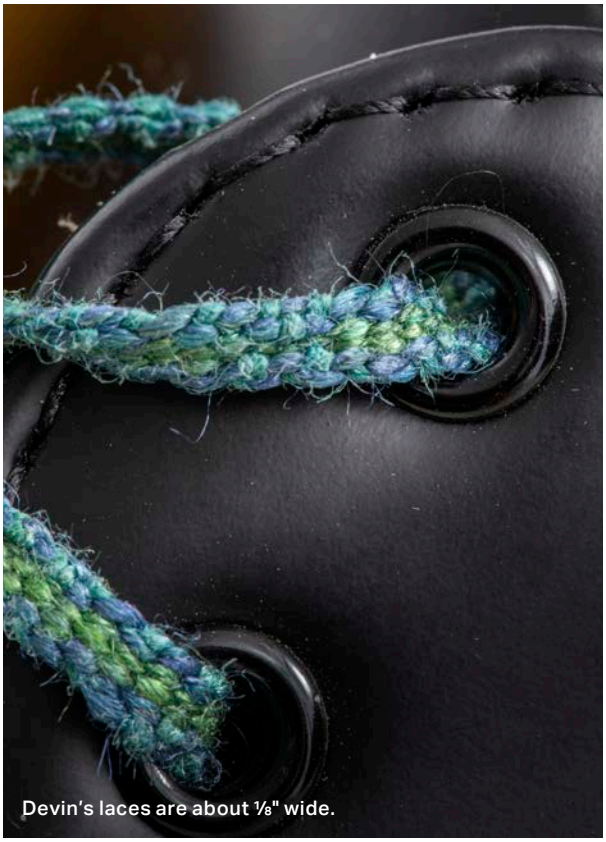
I aimed for a very fine two-ply and spun with high twist. I plied each color on itself and ended up with three small skeins of bright, silky yarn. I washed them in warm, soapy water and then rinsed and repeated to make sure all dye was washed out. I then hung the skeins up to dry unweighted.

I wound the dried yarn into balls and thought about how I wanted to use the three colors. I decided to have a border of the blue around the green to echo the trees standing between a lake and the sky. The middle shade would work well as weft, harmonizing with both of the other colors and barely showing at the selvedge edge.

MATERIALS

Fiber Salt Spring Island handpainted silk top (100% tussah silk; Treenway Silks), Walker Hook, 0.9 oz (25 g).

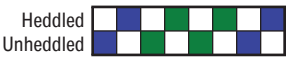
Yarns ***Warp:*** 2-ply laceweight (3,900 ypp; 26 wpi), blue (color A), 10 yd; 2-ply laceweight (4,400 ypp; 32 wpi), green (color B), 10 yd. ***Weft:*** 2-ply laceweight (4,400 ypp; 30 wpi), teal (color C), 4 yd.



Devin's laces are about ⅛" wide.

This pattern is easily woven on a backstrap-style rigid heddle, too. *Shown:* Dancing Goats 13-end rigid heddle in cherry and Treenway Silks tussah top in Walker Hook

Inkle draft



Read inkle drafts from left to right, as they are threaded.

Equipment Inkle loom, 4 string heddles; belt shuttle.Note: a rigid heddle can be used in place of an inkle loom.
Other Supplies Packing tape to make aglets to secure the ends of the shoelaces.
Structure Warp-faced plain weave.
Warp 8 ends 102" long (allows 2" for take-up, 10" for loom waste).
Setts ***Warp:*** about 64 epi. ***Weft:*** 22 ppi.
Dimensions ***Width:*** ⅛" (3 mm). ***Woven length:*** (measured under tension on the loom) 90". ***Finished size:*** ⅛" × 88" before cutting into two shoelaces.

INSTRUCTIONS

1 Wind a warp of 8 ends 102" long on your inkle loom following the draft.
2 Wind the shuttle with 4 yd of weft (Color C).
3 Leaving a tail 6" long, begin weaving, pulling the first few picks in tightly to establish the width of the shoelace, and beat firmly. Continue weaving in plain weave for the usable length of the warp. Remove the band from the loom.
4 Knot each end of the band to keep the loose warp ends secure. Wet-finish by washing in warm, soapy water, rinse, and hang the band to dry. Once dry, press with an iron on the silk setting.

FINISHING

Determine the desired length of the shoelaces and then cut two from the band. Cut a 1" square of clear packing tape and carefully roll it tightly around each cut end of each shoelace; this will act as an aglet to secure the cut end and ensure easy lacing.

Devin Helmen (They/Them) has been immersed in fiber since learning to spin at age eight. They spin, knit, and weave in beautiful Minnesota. Devin enjoys writing and teaching about fiber arts and has a passion for spindles and everyday textiles. Their focus is on making useful textiles from natural materials in a way that is informed by history. They blog, intermittently, at afewgreenfigs.blogspot.com.

