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Carol James

Sashweaver, carol@sashweaver.ca

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Re-creating Military Sashes: Reviving the Sprang Technique

Carol James

carol@sashweaver.ca

The year 2012 is the 200th anniversary of the War of 1812. Accordingly many historic sites feature War of 1812 re-enactment this year. A quick scan on the internet yields events at Chalmette, LA, Monroe, MI, Guelph, Ontario, Ogdensburg, NY, Sibley, MO, Fort Erie, Ontario, East Peoria, IL, Perrysburg, OH, to name a few (Sites identified using Google Search, “1812 events list”, search performed September 6, 2012).

The seriousness with which individuals pursue this event is reflected by interest in accurately replicated clothing. I personally have received requests for many sprang military sashes. This in turn has stimulated my research into the sprang technique. Figure 1.



*Figure 1. Military sashes from the War of 1812 feature an interlinking structure.
Sash and photo by Carol James.*

So, what is sprang, and how is it done? A traditional approach would be to begin with a definition. In the case of sprang, this may not be terribly helpful.

Sprang is described by Irene Emery as occurring

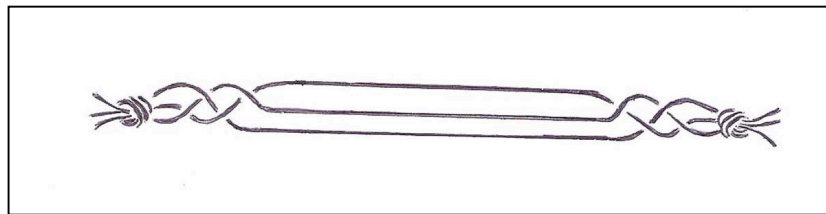
“When a set of elements is stretched between two cords or beams the interworking can be effected at both ends simultaneously. Presumably it is this way of working that is specifically denoted by the term sprang.”

The most detailed publication on sprang in the English language is Peter Collingwood’s *Techniques of Sprang*. Collingwood begins with the definition:

“Sprang is a method of making fabric by manipulating the parallel threads of a warp that is fixed at both ends. The manipulation can take the form of interlinking, interlacing or intertwining of adjacent threads

or groups of threads... Such structures do not require the addition of any other threads to stabilize them. The work is carried out row by row at one end of the warp. As an inevitable result of the warp being fixed at both ends, corresponding but contrary movements of the threads appear simultaneously at its other end."

Many people, after hearing this definition, say that it is still confusing. Resorting to a different approach, describing rather than defining sprang, perhaps the concept can be more clear. Consider three strands. If you attach the strands at both ends, then braiding at one end results in a mirror image braid at the other end. This idea, two braids for the work of making one braid, is basic to the understanding of sprang. It has been called a reciprocal braiding technique. Figure 2.



***Figure 2. Reciprocal braiding. Work at one end results in a mirror image at the other end.
Drawing by Carol James.***

Interlinking, interlacing, and intertwining are the braiding structures most easily compatible with the two-for-one sprang work. Most European sashes are worked in an interlinking structure. Interlinking in its basic form looks like a chain link fence. Variations can produce lace patterns. Colored warps will give vertical stripes in the cloth.

Interlacing means that threads cross over then under, making their way from selvedge to selvedge. Intertwining has threads travel in pairs, one set of pairs travelling to the right, another set of pairs travelling to the left. Colored warps that are interlaced or intertwined have a plaid effect, with the colors criss-crossing the cloth. Figure 3.

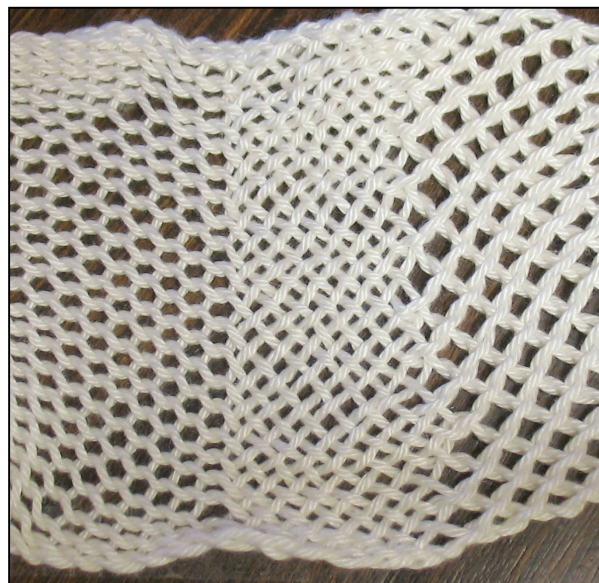


Figure 3. From left to right, interlinking, interlacing, intertwining. Photo by Carol James.

Sprang is perhaps better understood as a manner of working rather than as a textile structure. The manner of working has the hallmarks of the two mirror image pieces that are created at the same time. A problem enters when these two halves have been cut apart, or when only a fragment is available. Once separated from the whole, as in archaeological finds, no evidence as to the manner of working remains.

The advantage of sprang is the efficiency. You get two pieces for the time invested in making one, such as two socks, the front and back of a shirt. Making a sash, you weave one half and get the second half woven automatically.

Two basic methods can be used to create sprang, a flat warp and a circular warp. The difference between these two techniques is the manner of working: the flat warp works from outside edge toward a center join line; a circular warp works from a center meeting line around toward the extremities. (Figures 4 & 5.)

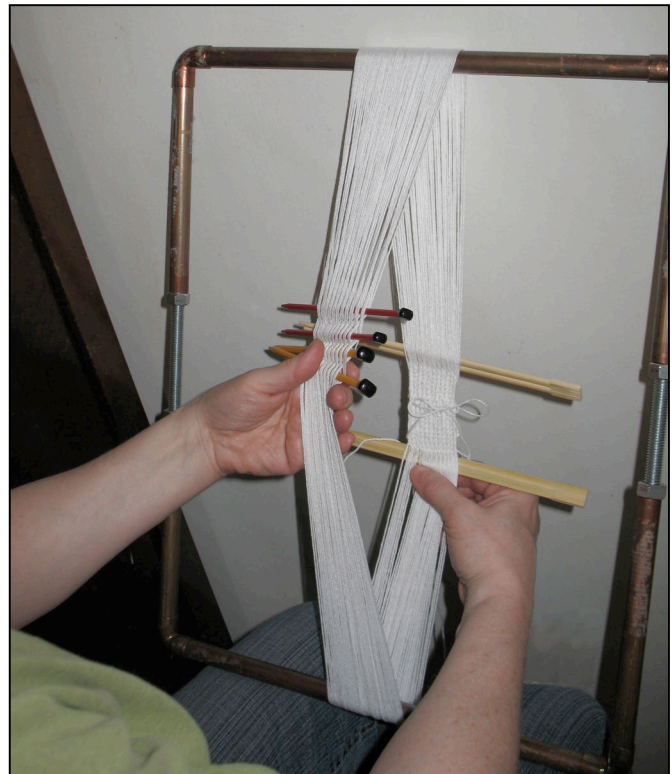


Figure 4, left. In figure-8 warp, cloth builds up at the outer edges, and grows towards a center-line.

Figure 5, right. In circular warp, cloth builds up from either side of the first cross.

Photos by Carol James.

Study of sash photos supports the theory that sashes were made using the circular warp method. A few sashes feature stitches in exclusively 'S' or 'Z'. The sash JB 46.234.25B in the collection of Parks Canada is completely done in 'Z'. This would indicate that two sashes were made at the same time, one a mirror image of the other, and these two sashes were 'separated at birth'. The other possibility is that a single sash was created using a 'free-end braiding' technique. This has been my experience in my practice re-creating such sashes.

Most sashes, however, exhibit a center meeting line, around which the two halves are symmetrical, one a mirror image of each other. This can be seen in sashes in North American collections such as 91.D.3 at the Lundy's Lane Museum in Niagara Falls, Ontario, the Montgomery sash 962.185.2 in the collection of the Royal Ontario Museum, and the Braddock Sash in the collection of The Mount Vernon Ladies' Association. (Figures 6 & 7.)



Figure 6, left. Sprang sashes feature a change of direction at the center line, indicated by the arrow.

*Figure 7, right. Detail.
Sash and photos by Carol James.*

The advantage of circular warp is the subtlety of the meeting place between 'S' and 'Z' portions of the work. A second advantage is that the result is twice the length of the frame. How does circular warp work? One continuous thread is wrapped around the frame in a circuit. The worker keeps track of the shed using a first cross, arranged between lease sticks. Threads go 'over under' the first time around, and then 'under over' the next time. This maintains order in the warp. (Figure 8.)



Figure 8. The frame is composed of 2x4s and 1inch dowels. The shed is arranged between finer dowels, held in place by pipe straps. Photo by Carol James.

The initial length of the warp must calculate for uptake, as the total length will shorten by as much as 30% with the work. Photo 8 features a heavy-duty sprang frame, capable of holding up to 16 ft of warp. It is composed of 2x4s and 1 inch dowels. To make it easier to keep track of that initial cross, finer dowels are held in place by pipe straps. The warp is tied at the arrow, the rightmost pole, and the warp is set directly on the frame, making sure to lay in the first cross.

The sash will be created working from the center of the sash toward the fringes. The circular warp transforms into a long rectangle when it is cut apart at the fringes. A colored warp requires a knot between two different colored skeins. The best place for this knot is the location where the cut will be made to separate the fringes.

Once the warp measuring is completed, check to see that the cross is correct. An error with the cross causes problems with the weaving. Best to have this done correctly. The cross is checked by inserting a stick in one shed, and sliding it all the way around to the other shed stick. If the cross is correct, the space will be the same.

Turn the frame upright to work. The lower edge is tensioned using a dowel attached with ties. The lower dowel can rise as the work progresses and the length shortens. (Figure 9.)



Figure 9. The frame is turned upright to work. Photo by Carol James.

How does the interlinking work? I have created a video available on youtube at <http://www.youtube.com/watch?v=JY3jyy2rGEs&lr=1>

Each time a row is worked, the resulting twists are pushed down and around and back to the starting point, leaving a second row of twists in the opposite direction. For a warp of 16 feet, that first row is pushed a bit more than 15 ft 11 inches.

Silk sashes in museum collections cited above use multiple fine strands as one single warp thread. A challenge presents itself when the desire for accurate historic materials is required. Manipulating multiple strands as one, the worker must take care to maintain the grouping of the strands. Snagging an incorrect thread in the grouping will result in difficulty when you try to shove the twist around and back to the initial cross.

In August 2012, I spoke with Dutch sprang expert Coby Reijnders-Baas who has repaired some 30 sashes dating to the 1700s (Personal communication, Sept 10, 2012). She spoke of the textile traditions in the Netherlands at that time. Plying silk thread takes extra time. It was considered easier to weave using multiple thin strands than to take the extra time to ply. Indeed, the textile guilds at that time exerted great resistance to advances in spinning technology, NB Harte (ed.), *The new draperies in the Low Countries and England, 1300=1800* (Oxford: Oxford University Press, 1997.) Pg 334. (Figure 10.)



Figure 10, left. Multiple strands used together as one, in an historic sash in the collection of Coby Reijnders-Baas.

Figure 11, right. The fringe edge of an historic sash, 91.D.3 in the collection of Lundy's Lane Museum, Niagara Falls, Ontario, features gathering and then the insertion of a weft.

Photos by Carol James.

Interlinking results in a very elastic textile. Hemming such a textile presents a challenge. Historic sashes offer a clever finishing method. The finishing method begins with a gather. Threads are doubled up in the weave, effectively reducing the width by 50%. The cloth is then secured by the introduction of a weft into the fell. The weft ends cross back and forth in 3 to 5 successive sheds. The weft ends are then secured with a knot and the knot is hidden inside a shed. Alternatively the weft ends can be incorporated into the fringe. (figure 11.)

Patterns are often seen in historic sashes such as the Montgomery sash 962.185.2 in the collection of the Royal Ontario Museum, and the Braddock Sash in the collection of The Mount Vernon Ladies'

Association. How do the patterns work? Holes are created by introducing the 'edge stitch' in the middle of the cloth. Carefully controlled hole placement is the basic idea behind these lacy patterns.

Peter Collingwood suggests two approaches to pattern placement. One is to mark the location where you want the design and then create the pattern there. (Collingwood, pg 108). The other method involves graph paper (Collingwood, pg 150, James, pg 78). Intricate patterns can be planned out on a grid. Plan the work, then work the plan. Directions for some simple lace patterns in interlinking can be found in my book, *Sprang Unsprung*. (Figure 12.)



Figure 12, left. Geometric designs are often seen in historic silk sashes from the 1700s and 1800s. Patterns are created by the careful placement of holes. Sash by Carol James.

Figure 13, right. A variety of articles can be created using the sprang technique. Tuque, bag, and scarf by Carol James.

Photos by Carol James.

Sprang is not just for sashes. I've fallen in love with this technique. I would like to encourage people to explore this amazing technique that yields amazing lateral stretch. Sweaters, socks, bags, mittens, caps and shawls can be made using this method. Best of all, the technique yields TWO rows of cloth for every one row worked. The technique appears again and again in human history. From ancient peat bogs in Denmark (Margaretha Hald) to Greek, Roman, and medieval iconography (Dagmar Drinkler) to Pakistani pajama belts (Collingwood), humans keep returning to sprang. I take this as an indication of desirable elements of the technique. I encourage everyone to take another look at sprang. (Figure 13.)

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