Sewing Tiedown Straps, Version 1.2

By R. G. Sparber

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Warning: Under tension, a tiedown strap will likely fail in the sewn area described below. Before trusting your sewing job, I suggest you test it at twice the needed tension to be sure it will hold.

I bought a Speedy Sticher[2] from Ace Hardware for $20. Not only is this a handy tool for sewing thick material, but it is also a piece of history. According to their website (http://www.speedystitcher.com/history) this product was patented in 1909. How often do you see a product that has remained unchanged yet useful for over 100 years?

There are plenty of YouTube videos explaining how to use this tool. A bit of practice and I was stitching together strap. My stitching is strong but looks sloppy. I could not get it to be in a straight line with consistent spacing.

Upon close inspection, I realized I was jumping above and below a transverse thread. This picture does show one thing that has improved – my stitch spacing. To explain this improvement, I have to go back to a discussion on homemadetools.net with “Daturat100r”.

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[2] https://www.acehardware.com/departments/tools/hand-tools/awls/20430

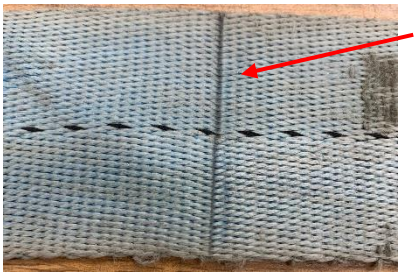
This person pointed me to a tool used to punch holes in leather before stitching:

This one is for sale on eBay[3]. The idea is as simple as the Speedy Stitcher – place the material down on a board, align the fork along your line, and hit the end of the punch with a hammer. You instantly get up to 6 holes. Following up with the Stitcher should give perfect results.

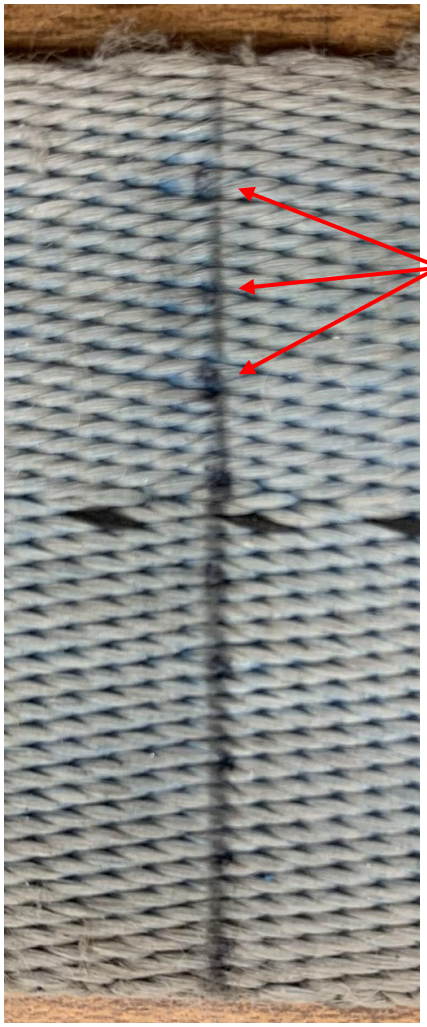
The idea is wonderful, but I don't need to punch holes. I just need to mark locations.

I had an ink pad, a gift from John Herrmann, so I only needed a tool to make dots in a row at a reasonable spacing. A plastic fork works nicely.

[3] https://www.ebay.com/itm/Leathercraf...m4cgZ15qw7HCMw



First, I drew a line with a sharp pencil. This was tricky because the strap is worn out, so it is easily snagged.



You can see my dots along the line printed with my fork dipped in ink.

Time to try this technique on a folded back end with a captured ring.

I started by drawing my lines.

Then I used the fork to make my dots.

The strap squirmed a little, so my stitching came out crooked on the top and bottom. But the cross lines are straight. And, even better, all of the stitches are even.

I think my sewing looks better on this side.

Nelson Collar had two suggestions.

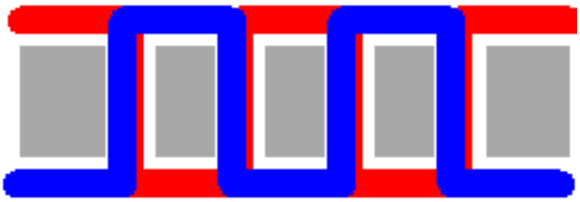
If you don't have a Speedy Stitcher, you can make a stronger stitch by using two sewing needles, each with their thread.

This is a side section view of the material to be sewn. The white space between the gray boxes is either pre-punch holes or marks showing where to push through the needles.

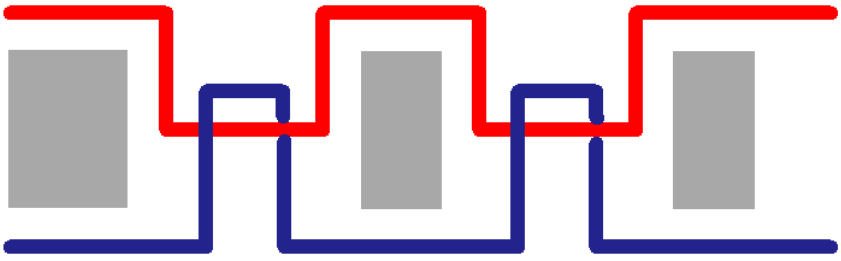
Following just one thread, you can see that Nelson passes the needle down one hole and back up the adjacent hole.

If we only look at the second thread, you can see that its path is the mirror image of the first thread.

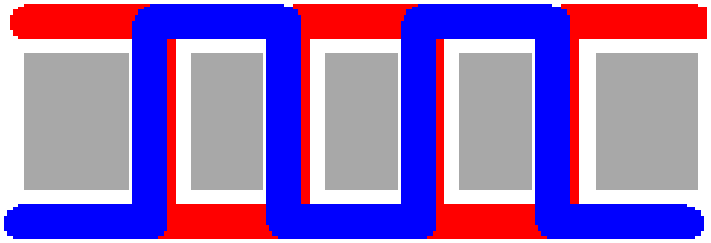
Putting it all together, we get this:



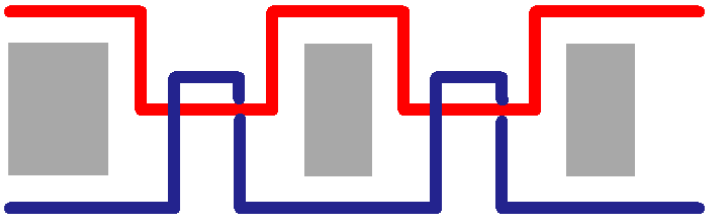
Which is different from the lock stitch we get with the Speedy Stitcher:



I suspect that Nelson's stitch is stronger than the lock stitch.



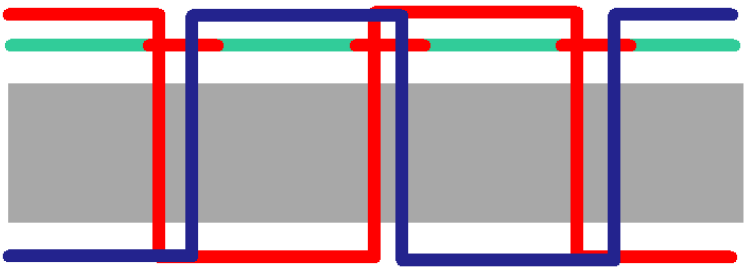
In Nelson's stitch, the thread bends at the holes in the material. As force is applied, the holes will elongate, and the bend of the thread will be gradual. This distributes the force, so the thread is less likely to break.



With the lock stitch, this force is concentrated at the point where the two threads lock together.

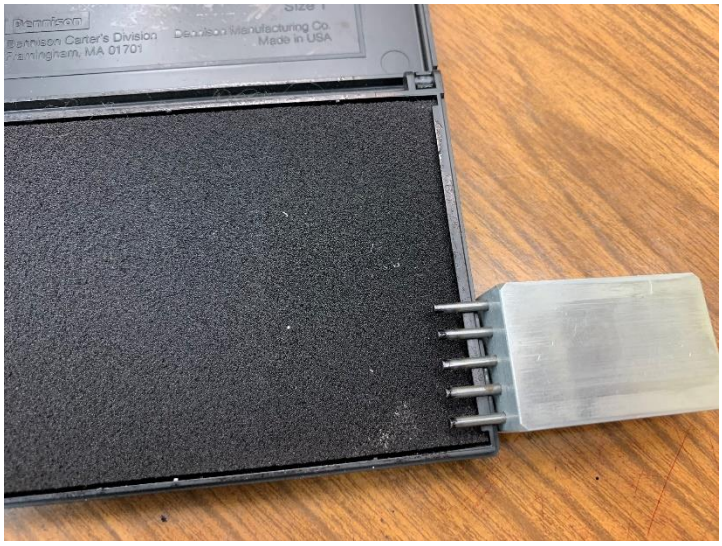
I am not concerned about the strength of the lock stitch because the thread is far stronger than the material being sewn.

Nelson's second suggestion related to marking the path and location of the holes. He marks up a piece of paper and staples it to the material. The green line represents the line on the paper while the red dashes are the marks for the holes.



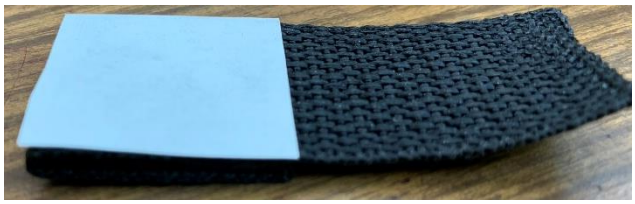
Then he sews right through the paper, which is represented by the gray rectangle. When done, the paper will separate at the line of holes and can be pulled out.

Nelson is one smart guy!

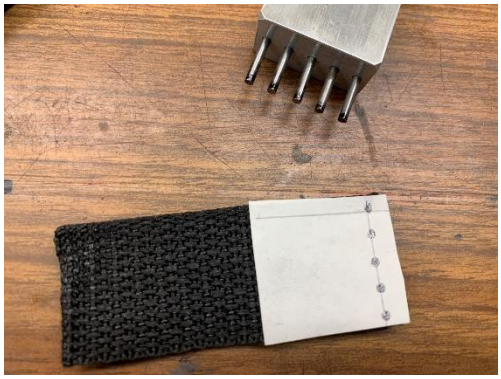


The plastic fork does work, but the tines easily bend. I made a replacement using a block of aluminum and some 4 penny finishing nails. The nails were first press-fit into the holes. Then I snipped them approximately to the same length. The belt sander finished the alignment.

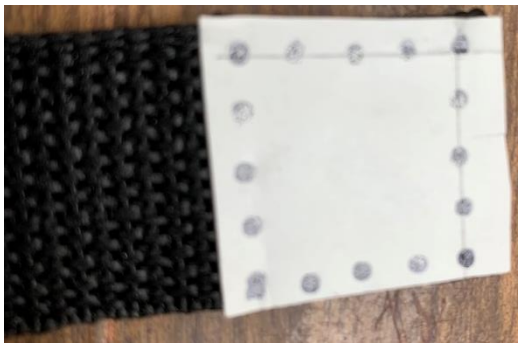
A dot of Super Glue on the face of the strap keeps it from moving around.



I then stuck on a piece of self-stick shipping label.

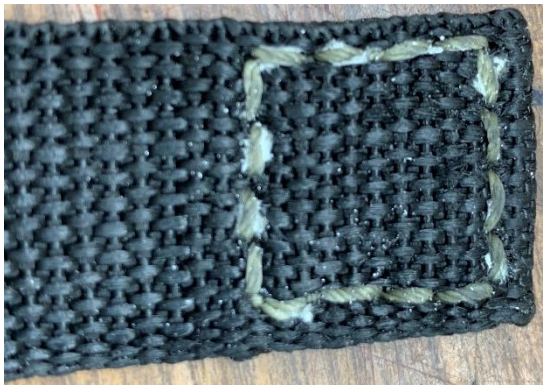


Next, I drew perpendicular sharp pencil lines to guide my stamp.

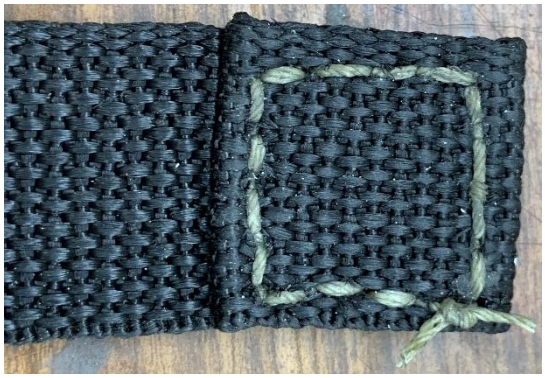


All needle locations have been marked with the stamp. In hindsight, I should have drawn lines on all four sides. The dot on the lower-left corner is the overlap of two stampings, and they did not perfectly align.

After sewing, the paper guide is partially torn by the thread as we saw in Nelson's suggestion. This makes it easier to remove.



A few shreds of paper remain.



The back looks as straight as the front on three sides. The bottom line shifted. This must have been due to the needle not being perpendicular to the surface as I pushed it in.

Acknowledgments

Thanks to John Herrmann for the ink pad. Thanks to Nelson Collar for his two techniques.

I welcome your comments and questions.

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