

# Boar's Bristles for Sewing Leather

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<http://www.ShoesByRobert.com/pennsic/2019/boar-bristles>

## Introduction

During our period, cordwainers and cobblers (if not other leatherworkers) often used “waxed ends” to stitch one piece of leather to another. They consist of a boar's nose bristle carefully attached to drawn-out linen thread, then coated with coad, a sticky blend of beeswax and resin.



Waxed ends have some advantages over metal needles: they easily follow an awl's path made through the thickness of the leather; and they fit through small holes without catching, as often happens with the eye of a metal needle. A smoother pull on the thread also means reduced stress on wrists and elbows. I also suspect that in period they were much cheaper than metal needles.

## Material Needed

-Boar's bristles (can be purchased on eBay; you may take a few from this class if you wish).

-Unwaxed linen thread (three-ply works best for me because it's necessary to unply it and draw out the plies in different lengths; some shoemakers ply their own but I have not yet tried this).

-Coad (beeswax mixed with resin, often in a ball; this provides grip and stickiness to help the thread adhere to the bristle, and to protect the thread when the shoes are worn; there are lots of recipes for coad - I use a simple two parts wax to one part resin); a lighter or small butane blow torch are helpful to warm the coad for application to the thread.

## Let's Try It!

During this class I will demonstrate how to make a waxed end and help you make one for yourself and then use it to butt-stitch two pieces of leather together. Sample pieces of leather are provided and awls for you to borrow are available.

## How to Make a Waxed End

To make a waxed end, I take three-ply, unwaxed linen thread and unwind it for about two inches (Fig. 1). Then I use a dull knife to scrape each of the three individual plies into fiber at different lengths (bottom, middle, and top of the drawn-out section) (Fig. 2). (As far as I can tell, it does not matter whether the thread is S- or Z-spun: I just unply it and draw out each ply, then twist it back to its original winding.)



Fig. 1: untwisted 3-ply linen thread

Fig. 2: drawn-out plies

I then twist these back together and pull them through warm coad, an especially sticky type of wax made from beeswax, resin and/or pitch. This results in an extremely finely drawn, sticky length of fiber (Fig. 3). If you intend to use waxed thread, now is a good time to wax the rest.



Fig. 3: retwisted plies with coad applied

Fig. 4: thread within split bristle

Next, I take a boar's bristle and split it about half its length into two branches; most bristles split naturally and are already starting to part when purchased. I apply coad to the bristle as well so that it's sticky where the thread will attach to it.

Insert the thread between the two bristle branches and snug it downward into the crotch they form, with about half an inch protruding (Fig. 4). Bend that against the lower bristle and then twist it away from yourself while slowly winding the other thread down over that half-inch until it's fully enclosed (Fig.5). Once done, keep the bristle spinning while moving the thread back up over what was already laid down until reaching the split in the bristle (Fig. 6).

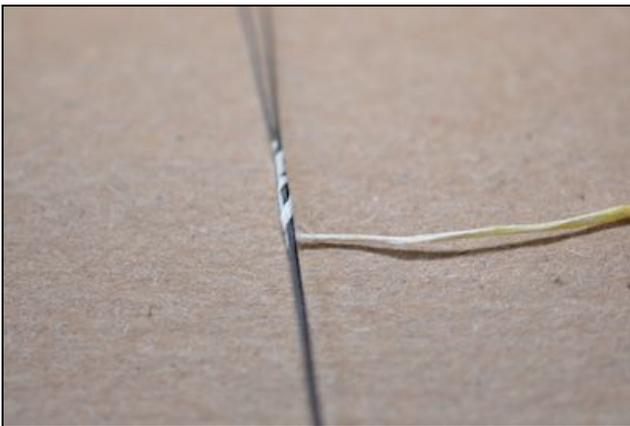


Fig. 5: thread wrapped down over first bit

Fig. 6: wrapped back up over previous thread

Now, twist one side of the split bristle and the thread away from yourself for a couple of inches (Fig. 7). Finally, pinch the two bristle sides together and then counter-twist them toward yourself (Fig. 8). Hold them tightly and apply more coad.

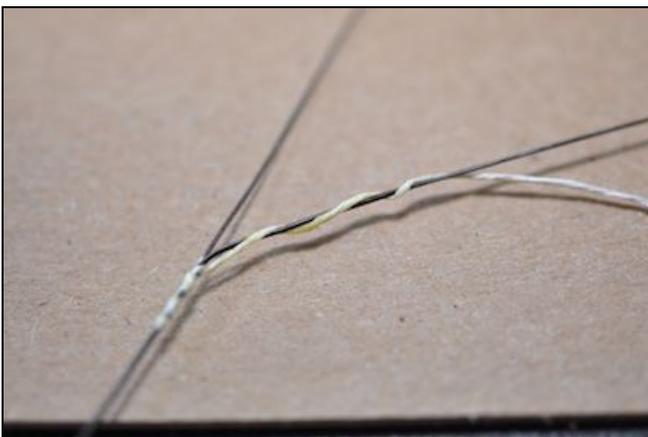


Fig. 7: twisted onto one branch

Fig. 8: the other counter-twisted onto the first

After this, to better secure the thread to the bristle, use a very sharp awl to make a hole in the thread near the top of the bristle (Fig. 9), then push the point of the bristle through that hole (Fig. 10) and pull it tight (usually there's an audible pop when they catch). You may want to snip off the tip of the bristle, which sometimes has a little nodule that catches on the leather during stitching.

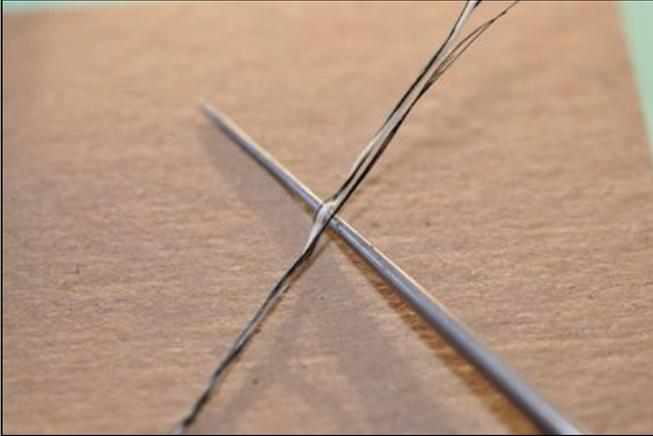


Fig. 9: thread pierced by awl

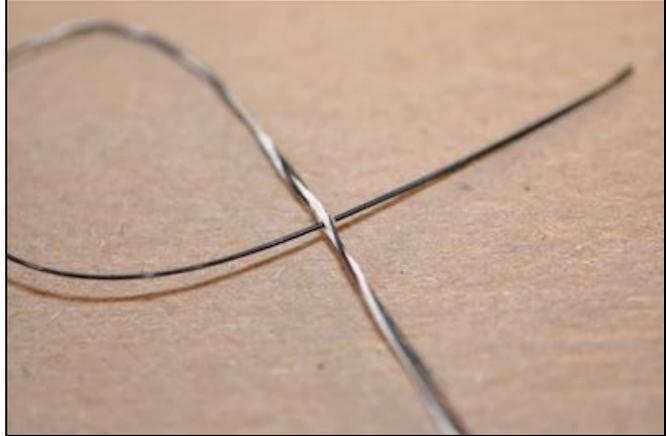


Fig. 10: pulling the tip of the needle to lock it

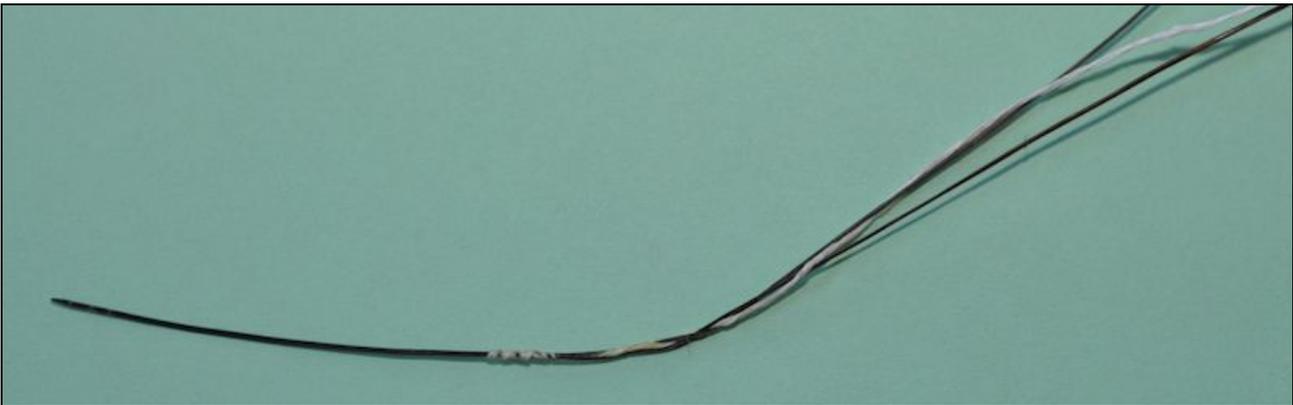


Fig. 11: a complete waxed end

## Watch Some Videos

You may find it easier to watch a waxed end being created rather than read about it. View the videos linked from my website at <http://ShoesByRobert.com/videos> for reference. Don't be afraid to watch them repeatedly, and in slow motion or short loops, to better understand what the people there are doing at each step to create their waxed ends.

It definitely takes some practice and dexterity to make waxed ends, but it's worth the time to figure it out and use them for stitching.

## Where to Buy Boar's Bristles

Large quantities of boar bristles can be purchased on eBay for just a few dollars (\$20 for 400-600), so even though you most likely will use each just once, a batch can last a long time. Search for "hog wild boar bristles shoemaking" to find the merchant I've purchased from. (Simply searching for "boar bristles" will result in an avalanche of hair brushes!)

## Acknowledgement

The image on page 1 is from <http://bestiary.ca/beasts/beastgallery197.htm> (Huntington Library, HM 27523, Folio 228r).

I would be delighted to hear what people create with bristles at [kps1@cornell.edu](mailto:kps1@cornell.edu) or field questions about making them.

- R.

