An Experiment in Canvas Stretching

May 2026

Lessons Learned:

1. There are "terms of art" which go with Canvas Stretching. I have tried to cover the main ones (i.e. the new ones on me) at the end of this article.
2. For bigger canvasses, buy sturdier stretcher bars.
3. Use a good staple gun with staples that can penetrate the stretcher bar wood.

The Story:

In the beginning:

Like many good ideas, this experiment was a result of a random conversation between Mark Cole and I about my plans for future oil painting projects this year (2026). I wanted to do something on a bigger canvas than the 24" x 18" that has been my maximum to date. Mark's eyes lit up and he suggested that the hosts of our workshops, *Chester County Art Association (CCAA) (pictured)*, had canvas we could use - so how about we stretch our own canvas for some bigger frames as an experiment?

Where to start?

I was fortunate in that CCAA had three of different types of canvas bolts in their stores:

- a very lightweight, completely untreated canvas (pictured on top of frame of stretcher bars)
- a "top-end Belgian linen" (??? Marks Guess) canvas that was already "Gesso'd." Very heavy.
- A mid-weight canvas between the previous two

We chose to experiment with the lightest and the heaviest.

What size?

Mark's first question was, "What size are the frames you want to use?" Time to visit my favorite "Antiques" store in Augusta, WV, with a budget of $100. The goal was two "large-ish", sturdy frames in reasonable condition that had the depth to support a canvas on is stretcher bar frame. I was lucky to find a 30"x 24" frame and a 32"x26" frame for the grand total of $42! They came with prints (which we threw away) and glass (which we donated to the CCAA print department) to leave us with the basic, clean-ish frames.

Building the frame

With the dimensions set, Mark sent me off to a specialist art store to buy "stretchers." It turned out that this generic term refers to fixed length wooden "stretcher bars" that are sold incremental one-inch lengths and small wedges known as "stretcher keys" or just keys, two per corner or eight per frame. As a novice purchaser of stretchers, I bought the cheapest quality. This turned out to be a mistake for our project because one or two of the stretchers were laminated in sections and the pressure of tapping in the keys (as Mark is doing in the photo) cause the laminate to separate. We were able to fix with small screws and glue but it was not ideal. If you look carefully, you can see that one of the stretcher bar faces is not flat. It is shaped to ensure that there is the smallest possible edge closest to the canvas so there is a "sharp-ish" edge to stretch the canvas over. Make sure that your stretcher bars have this feature and face into the canvas being stretched.

Sizing the canvas

Basically, the canvas needs to be cut to give a couple of inches of overlap beyond the frame as shown in the photo. The canvas can be stapled to the edge of the frame (traditional) or the back of the frame (easier). We chose the back of the frame which requires a little more overlap of canvas when sizing.

Stretching the canvas – Step 1

For this exercise, we bought new "Canvas Pliers" (shown in photo). These were "spring-loaded" which a nice design feature, except that the spring kept falling off the pliers and we eventually discarded it. The process starts with putting the first staple through the canvas into the frame at roughly the midpoint of one of the longest sides. The canvas is then stretched (as shown) using the pliers so that the stretch canvas can be stapled at a point opposite to the first staple.

Stretching the canvas – Step 2

With the first three staples in place on the longest sides, the process repeats for the first few staples on the shorter sides and then continues to alternate between longer/shorter sides until the corners are reached (but not stapled yet - see photo). The alternation minimizes rippling and maximizes tautness all round. Note, the choice of stapler and staples was important – we tried several options and most did not penetrate the wood well enough to staple flat. For the wood used for this frame (cheap) and our two types of canvas, the best combination we found was an Arrow T50 Heavy Duty Stapler with Arrow T50 5/16" x 8mm Heavy Duty Staples.

Stretching the canvas – Step 3

Corners! The goal here is to fold the corners as flat as possible then staple. Think “hospital corners” when making up a bed with a flat sheet. With our lightweight canvas, this was easy (see nice tidy corners in left-hand photo). The heavy canvas (right-hand photo) was trickier and the result a little less elegant but still acceptable.

Enhancing the Stretch

The canvas stretch can be enhanced by painting the exposed canvas with Rabbit Skin Glue. The glue came in a packet as “flakes” which were mixed with water. The resulting mix turns into a gel when cold, so it needs to be warmed as it is applied with a paint brush – we used a single-ring electric heater as shown. For the un-gessoed lightweight canvas, we applied the glue to the front, to-be-painted, face.

The lightweight canvas stretched!

The final test of the stretching process. The stretched lightweight canvas fits its frame!

Applying Gesso to the lightweight canvas

With the rabbit skin glue completely dry (24 hours), the gesso is applied to the lightweight canvas quite thickly to ensure thorough coverage but as smoothly as possible to minimize potential “show through” of gesso brush strokes to the finished art, although the next step also helps with this. The gesso was applied along the longest dimension first (as shown) and then along the shorter dimension.

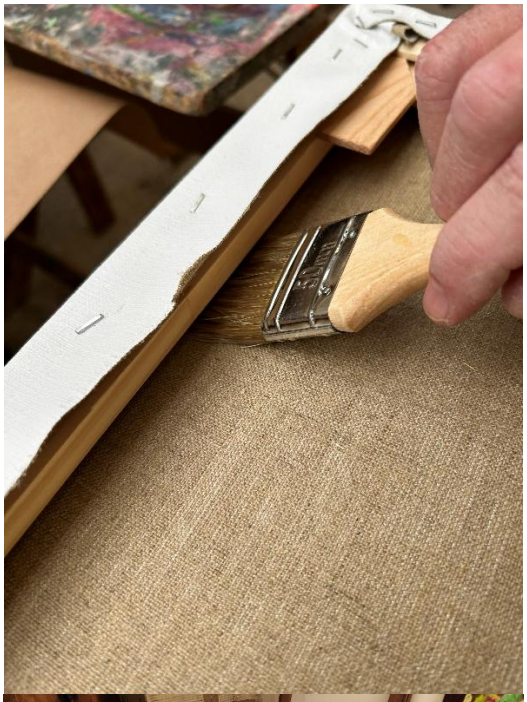
Sanding the Gesso

For the lightweight canvas, the quality of the canvas and the applied gesso was such that only a light hand sanding with 220-grade sandpaper was required to smooth the gesso. The resultant dust was gently brushed away to make the canvas ready for paint.

Challenges with stretching the heavyweight canvas

The heavyweight canvas was already gessoed and the combination of the heavyweight canvas and the gesso added a couple of practical challenges. Firstly, the canvas was harder to stretch even with more tension applied, some small areas of slackness were visible on the “finished” canvas. We decided to apply rabbit skin glue to the reverse side of the canvas, being careful to apply under the stretcher bars to ensure tautness with no ripples – it started to work very quickly! (see upper photo).

Secondly, the extra stretching force applied to stretch the canvas and the drying rabbit skin glue combined to start to warp the frame. We addressed this by drying the canvas flat with the corners weighted as shown in the right-hand photo.



The heavyweight canvas stretched!

The final test of the stretching process. The stretched heavyweight canvas fits its frame!

Terms of Art:

- **Gesso** - Gesso is used in painting as a preparation for any number of substrates such as wood panels, canvas and sculpture as a base for paint and other materials that are applied over it. (Source: https://en.wikipedia.org/wiki/Gesso). Hence, “Gesso’d” means Gesso has already been applied.
- **Rabbit Skin Glue** - a type of animal glue used as a sizing and an adhesive. It is essentially refined rabbit collagen. The glue has been used for centuries for stretching and priming canvases for oil painting. It is also an ingredient in traditional gesso. (Source: https://en.wikipedia.org/wiki/Rabbit-skin_glue).

- **Stretcher Bars** – lengths of wood not unlike the single edge of a picture frame, cut to facilitate basic joints with other stretchers to form the frame around which the canvas will be stretched. Available in one-inch increments. For example, https://www.dickblick.com/products/best-medium-duty-stretcher-bars/.
- **Stretcher Keys** – small wedges of wood used to tension the stretcher bars to hold them together. For example, https://www.dickblick.com/items/blick-standard-stretcher-keys-pkg-of-8/.