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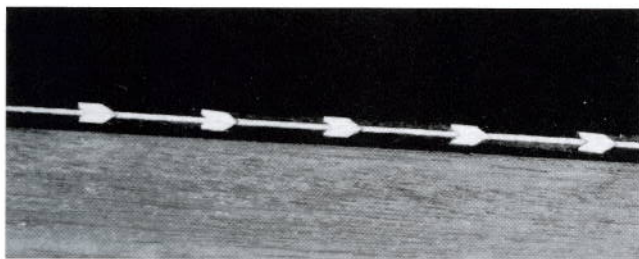
# Making an Arrow Banding: A Seymour Detail Explained

*Philip C. Lowe with Austen Winters*

*This article describes the tools, techniques and materials used to make a Federal-era banding. The authors conclude that the limited use of the banding was due to the labor-intensive nature of its fabrication.*

Seymour furniture is well known for its abundance of ornamentation, some of which was done by subcontractors such as Thomas Wightman, the carver, John Ritto Penniman, a gilder and decorative painter, or John Dewhurst and his son, George, who produced stringing and banding<sup>1</sup>. John and Thomas Seymour have become known for their use of unusual inlays such as herringbone, checker, lunette, crossbanding, toothed, and dart or arrow bandings.

It is one thing to intellectualize the Seymours' use of bandings and to speculate who may have provided them, but to come up with a logical procedure for producing each element that pertains to the fabrication of a banding- using only tools that would have been available at the time- is another realm completely. I certainly pondered the use of power tools to make each part of the arrow banding that I will describe, but because of the size of the parts and nature of the grain orientation I felt it would be easier and safer to make it by hand. For this article I have combined efforts with Austen Winters who has so kindly allowed me to document and photograph the procedure for making the arrow banding (Fig. 1) which he used on a reproduction of a Seymour dressing chest with mirror. (Fig. 2)



*Fig. 1 Arrow Banding for Seymour Dressing Chest*



*Fig. 3 Marble Top Side Board with the most developed pilasters of all the Seymours' work. Photography by Gavin Ashworth NYC*

When the Seymour exhibit *Luxury and Innovation: The Furniture Masterworks of John and Thomas Seymour* came to the Peabody Essex Museum, I had the privilege of working on one of the finest pieces on display: a marble top sideboard with the most developed inlaid pilasters of all the pieces in the exhibit.<sup>2</sup> (Fig. 3) The complex banding on the edge of the top was comprised of several bands made up of curly maple (*Acer rubrum* & *Acer sacharinum*) flanked by gaboon ebony (*Diospyrus crassiflora*) above and below, a checker of mahogany (*Swietenia mahogani*) and maple, on top of a crossbanding of she-oak or Botany Bay oak (*Casuarina*), which was supported by a dart or arrow made of ebony and maple. (Fig. 4)

It was this arrow band that became my intrigue. After a good deal of thought, a couple of questions kept cropping up. How were these craftsmen able to produce the thicknesses of veneer which were glued together to form the shaft of the arrow? How were they able to produce the numerous chevron-shaped pieces consistently with simple bench tools? As I answer these questions, I will

<sup>1</sup> Mussey, R.D. Jr. (2002). *The furniture masterworks of John & Thomas Seymour*. Salem: Peabody Essex Museum.

<sup>2</sup> Ibid. p. 206. Catalog entry #36.



*Fig. 2 Seymour Dressing Chest with Mirror by Austen Winters*



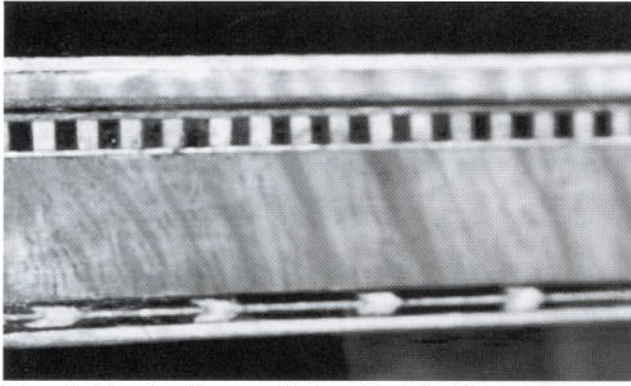


Fig. 4 Edge banding on sideboard in Fig. 3

explain the step by step sequence that I followed to produce the complex laminations that are just one part of a multi-layered edge treatment for the top of the Seymour sideboard.

The first step in fabrication is to laminate three pieces of veneer; the top and bottom pieces of veneer are dyed black and the central veneer is maple. (Fig. 5) All of the glue-ups are done using 192-gram strength hide glue.

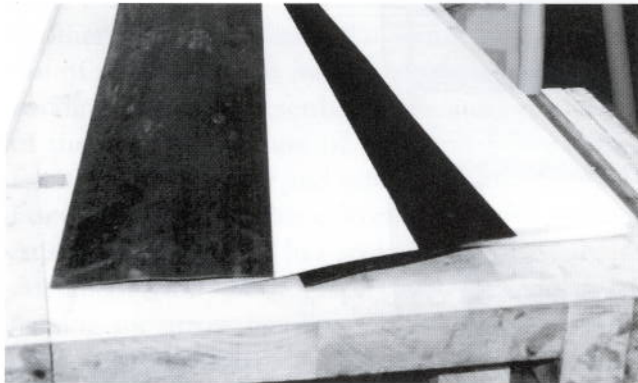


Fig. 5 Black and light veneers ready for laminating

In response to the first question regarding the consistent thickness of the veneers, I feel that they could have been importing veneers that were sawed or sliced with a *guillotine* which would be able to produce a thin enough product to make these elaborate, yet amazingly well-prepared slices that could then be glued together. These veneers could have made their way here with the influx of skilled craftsman coming to this country or as cargo that was bought on speculation by traders on their journeys abroad.

The next task is to prepare a piece of very straight-grained maple the same thickness as the three pieces of veneer that were glued together.

This is critical because the laminated veneers and the maple, side by side, make up the central core of the banding.

Upon close inspection you can see that the maple and the laminated veneers are both cut to the same chevron shape and nest together perfectly. (Fig. 1) The only difference is that the maple chevrons are shorter than those made of the veneer lamination. Note also that, upon magnification, the finished exposed surface is edge grain and not end grain.

The second question that I needed to answer is how were each one of the elements fabricated without table saws, routers or sanders, but with the simple tools that would have been at their disposal. Here is the solution that I came up with for making each of these parts.

Both the laminated and solid pieces have a “V” shape cut at one end and the opposite end has a point. The next question that comes to mind is which of these cuts comes first and if I cut one particular shape first, how will I hold the piece to make the second set of cuts? This led me to consider the type of tools I would use to cut each part of the chevrons. After serious contemplation, weighing the pros and cons, I decided to make a tool that would be able to cut the “V’s” for the back of the arrowhead and the rear of the shaft first. Was it a plane that was made specifically for that purpose or some other device? The tool ended up being a simple scratch stock with a “V”-shaped cutter. (Fig. 6) The cutter is fashioned from a discarded band saw blade. At the grinding wheel, it is cut to length and ground to remove the teeth. I then ground it to the correct angle, about 30 degrees to either side of the center line and left it square, that is, without any bevel. It is mounted in the scratch stock handle with the correct projection so that its widest part was equal to the thickness of the laminated veneers and the maple piece.

The problem that arose next was that the pieces are so thin that they flex and vibrate when any force is exerted against them, resulting in a chattered surface. To eliminate these problems the simple solution is to back the material being cut with a thicker piece. But first, the setup starts by planing the ends of the blanks square. (Fig. 7) Then, aligning the end of the blank with the end of

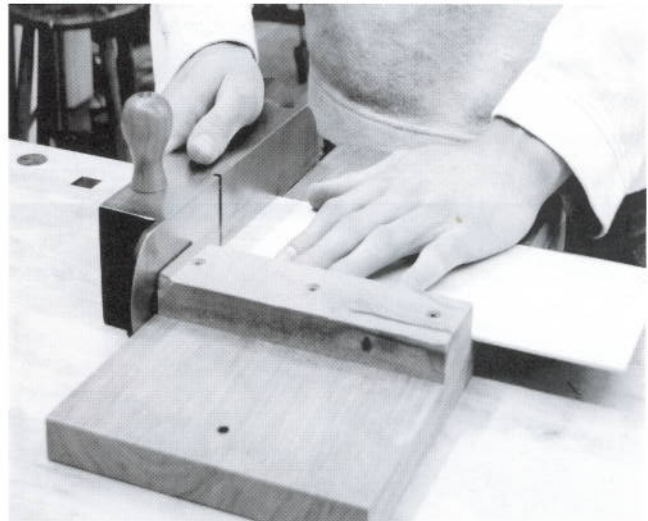




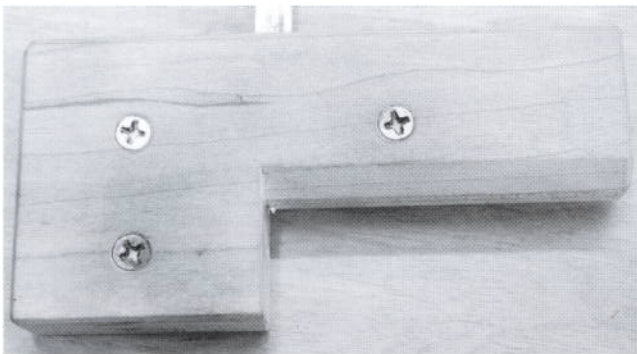
the backer piece (Fig. 8), it is clamped in the vise to keep both pieces from moving, and the scratch stock is lightly passed across the end grain until the full depth of cut is achieved. (Fig. 9) The backer block also acts as a stop, which gives consistency to the depth of cut. After each cut, the end of the material is squared on a shooting board or bench hook to remove the ragged edge, which prepares the material for the next cut.

After each "V" cut is made, the points on the arrow head and the shaft need to be cut. This is best achieved with the aid of an angle, planed on the edge or end of a board which is wide enough to cover the entire width of the blank. But before the cuts are made a layout line is scribed on both surfaces using the end of the freshly cut "V". This is done by lining up the end of the material on the backer block. With a cutting gauge adjusted to the desired dimension, lines are scribed on both sides of the material. (Fig. 10) The angle jig is aligned to these two lines. The material is now laid flat on a bench top and the angle block is placed on top aligned to the scribe lines on the workpiece surface. In order to keep the correct angle, a scrap the same thickness as the workpiece is used to support the other end of the angle block. When everything is aligned perfectly, clamp in place. Each part is cut halfway through its thickness using two knives, one with a right-ground bevel and one with a left-ground bevel. (Fig. 11) The cuts are made from the edges toward the center of the piece while keeping the flat surface of the knife blade registered against the bevel on the angle board. (Fig. 12) By alternating knives, the stroke of

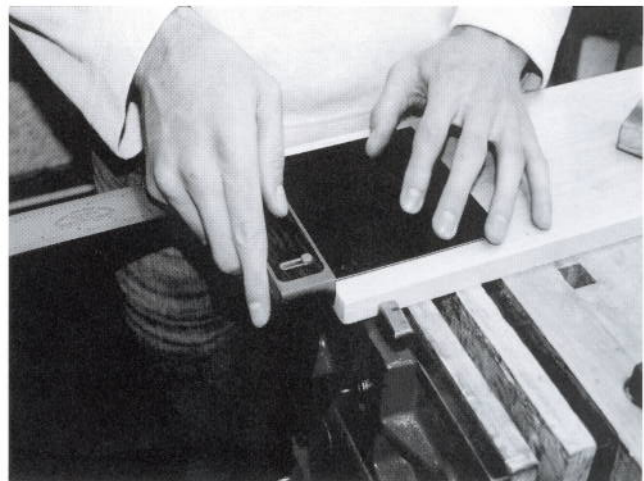
each cut toward the center of the workpiece prevents the edge from splintering away. Once the cut is halfway through the thickness of the piece, the blank is turned over and the same series of cuts are made until the piece is cut free of the blank. (Fig. 13) This technique is used for the arrow heads (Fig. 14) and the three-piece veneer lamination that makes up the shaft of the banding. Repetitions of the same sequence of cuts are made until enough pieces are made to make up the length of the banding when nested end to end.



*Fig. 7 Planing the ends square with the aid of a bench hook*

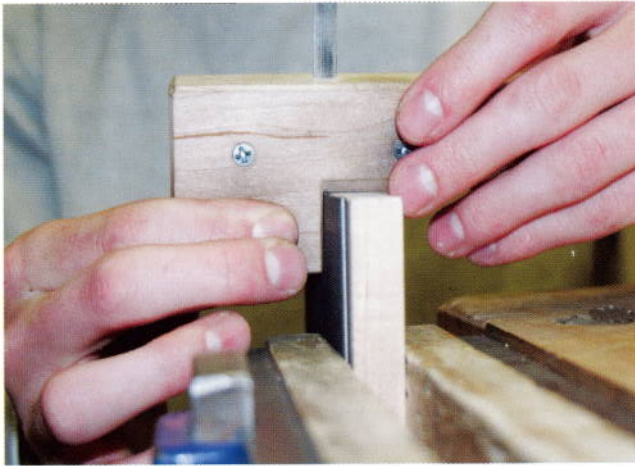


*Fig. 6 Scratch stock with v shaped cutter in the corner*



*Fig. 8 Aligning the blanks square to the end of the backer board*

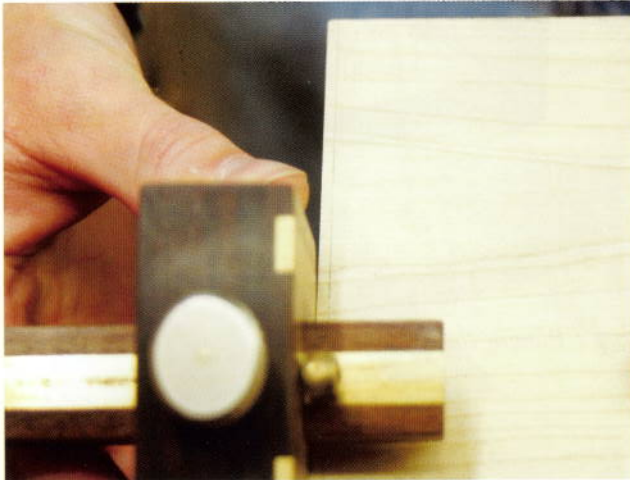




*Fig. 9 Holding the blank and the backer piece in the vice and scratching the "v" into the end grain of the blank*



*Fig. 12 Keep the knife flat to the angled block*



*Fig. 10 Scribing the lines for alignment of angle block*



*Fig. 13 The arrow head cut free of the block*

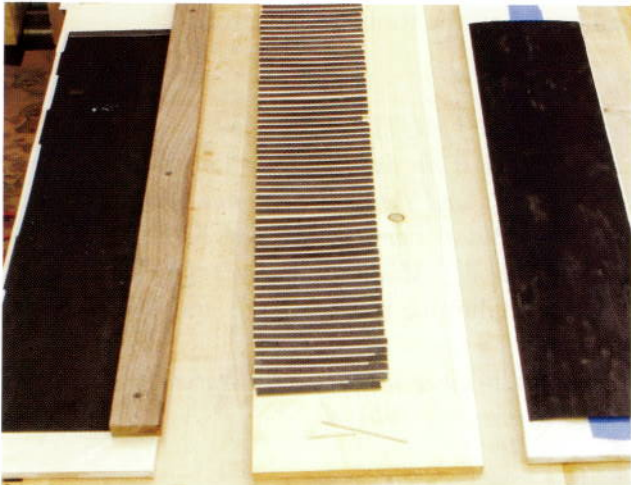


*Fig. 11 Angle block (walnut) is clamped to the workpiece, indexed to the scribe line*



*Fig. 14 Finished arrow heads*

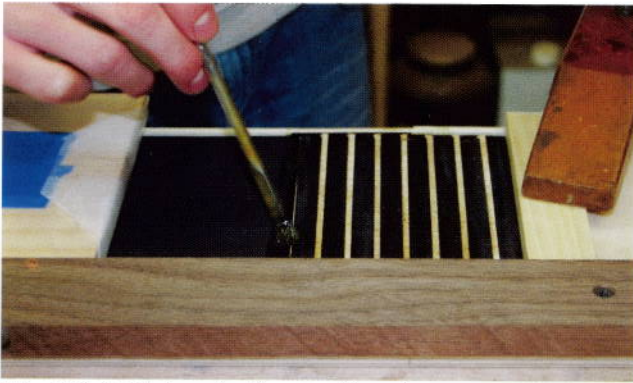




*Fig. 15 Veneer held in place with batten (L) and alternating arrowheads and shafts ready for glue up*



*Fig. 18 Clamping sandwich together, caution should be taken not to shift the lamination causing gaps between chevrons*



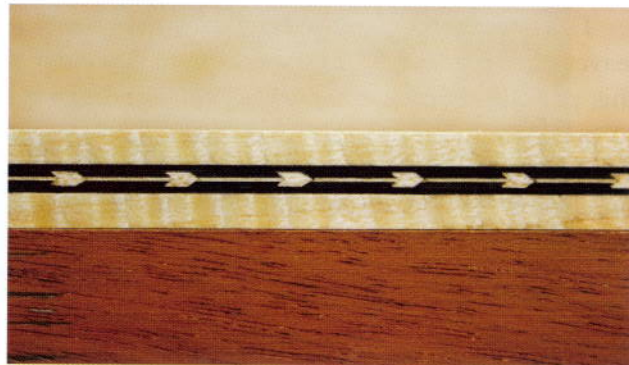
*Fig. 16 Applying glue for attaching chevrons*



*Fig. 19 Planing the edge straight*



*Fig. 17 Applying hot glue to the surface to re-melt excess glue residue*



*Fig. 20 Curly maple applied to each surface creating a second type of banding*





To hold the arrangement of alternating pieces, sandwich them between two pieces of black veneer. To perform this task, one piece of veneer is held in place with a batten screwed to a piece of plywood barely securing the edge of the veneer. (Fig. 15) In order to keep the parts aligned, a fence is clamped at one end to start the glue up square.

Hide glue is brushed onto the surface of the veneer in an area large enough to apply a few pieces at a time. It is important to get glue into the "V" shapes and points of all the parts. (Fig. 16) Any glue residue on the exposed surface should be scraped off. Once an area of four or five inches is covered and cleaned, a caul covered in wax paper is clamped in position to hold everything in place. This procedure is repeated until all the chevrons are glued down. Then the wax-papered caul as well as the batten is removed. A coat of hide glue is applied to the exposed surface of the chevrons (Fig. 17) and the other veneer is glued in place. Be careful when applying the glue since the hot glue can re-melt the glue that remains which ensures an adequate bond. The whole lamination is then clamped between the two cauls. When applying the clamps make sure the parts don't shift and create gaps. (Fig. 18)

With this central core glued together the edge is planed straight (Fig. 19) and, if needed, ripped in half. Curly maple glued to both surfaces creates a second banding used on the edge of the top of Austen's dressing chest. (Fig. 20) By adding various thicknesses of black and light material, a third banding resulted which was applied to the mirror frame. (Fig. 21)

The process of fabricating this arrow banding leaves me with a few thoughts. First, I wonder if this particular arrangement was so labor intensive to produce that the person who initially fabricated them ever realized a profit. Perhaps the Seymours purchased the entire lot of banding so this motif was found only on their pieces. Whoever fabricated it may have decided not to make any more of it because they lost their shirt on the deal. We may never know.

I have concluded that the simple tools I used to make this banding were probably similar to those used to make the original. Due to the nature and size of the banding components, the inlay maker would have derived the same method, even if he

had access to the tools we have today.

#### ABOUT THE AUTHORS

*Phil Lowe is the founder of the Furniture Institute of Massachusetts and the 2005 recipient of the Society of American Period Furniture Maker's annual Cartouche Award. See W. Mickey Callaban's article Philip C. Lowe: A Glimpse into his Life and Work in this issue.*

*Austen Winters studied at the Furniture Institute of Massachusetts with Phil Lowe.*

*Fig. 21 (Facing page) A third variation as applied to the mirror frame of Winters' dressing chest*



