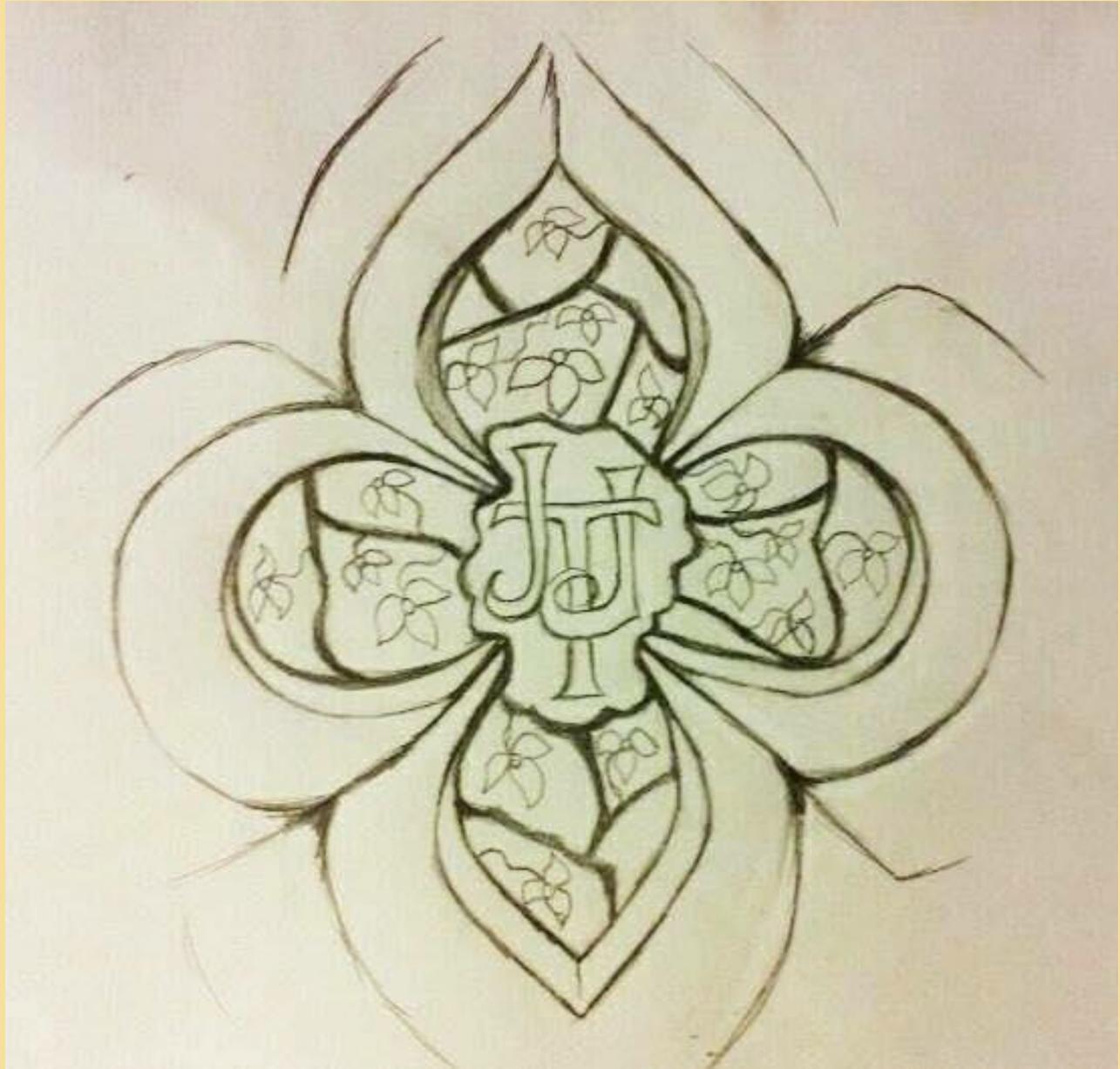


# Flammeus Alles



*Drawing by Rene Richard*



The Barony of Fenix



# Spring Newsletter for the Barony of Fenix

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**Submissions for the next quarterly issue are due by March 20<sup>th</sup>, June 20<sup>th</sup>, September 20<sup>th</sup>, or December 20<sup>th</sup>. Please send officer letters, educational or entertaining articles, artwork, calendar updates, etc. Please include a signed release form with your submission.**



*This is the Spring 2015 issue of Flammeus Alles, a publication of the Barony of Fenix of the Society for Creative Anachronism, Inc. (SCA, Inc.). The Flammeus Alles is edited by and available from Amy Ryan, 215 Warwick Ave Apt B, Hamilton, OH 45013. It is not a corporate publication of SCA, Inc., and does not delineate SCA, Inc. policies. Copyright © 2015 Society for Creative Anachronism, Inc.*

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# Baronial Officers Page



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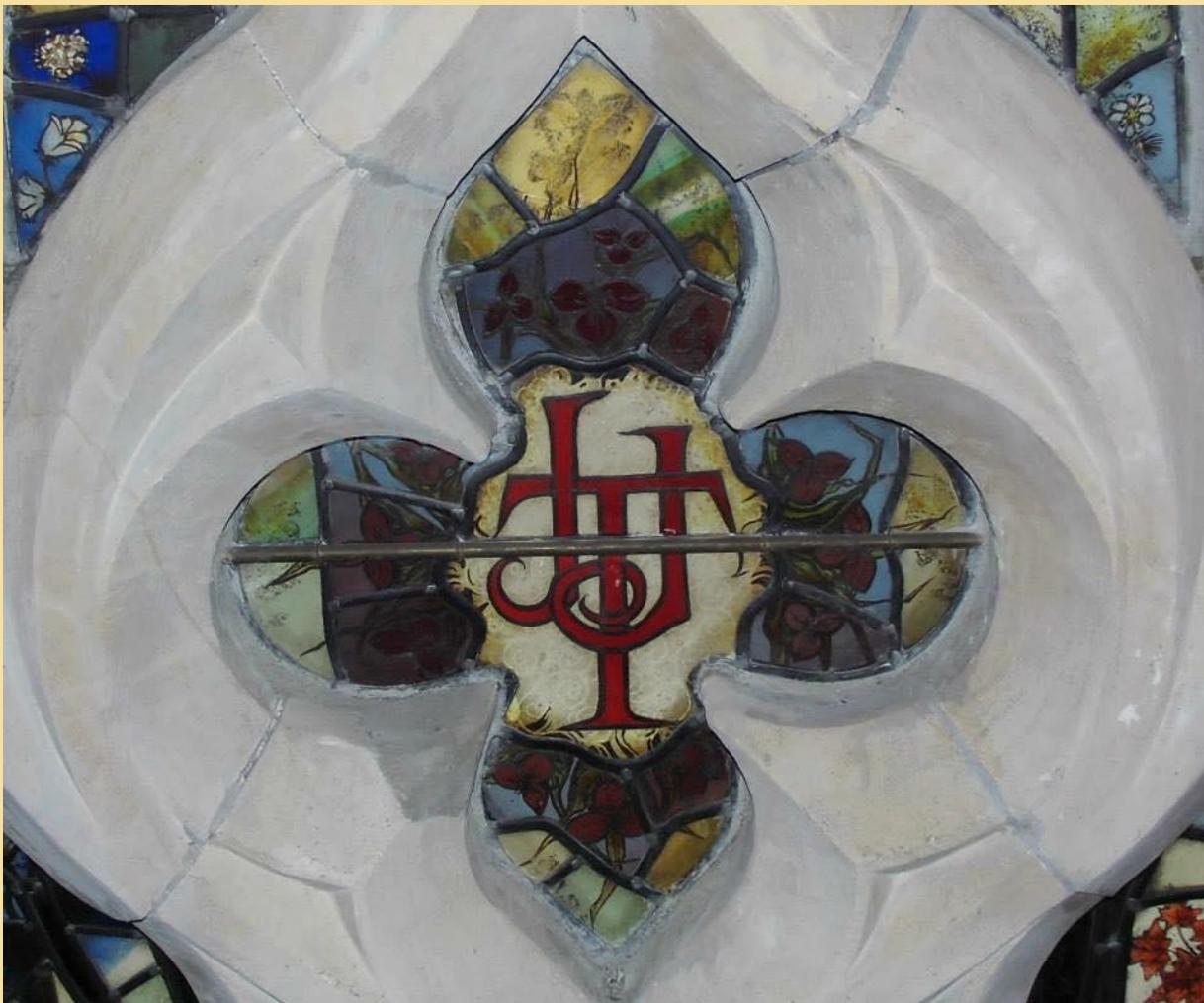
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# The Story Behind the Cover Art

The drawing on the cover page is of the only original stained glass piece remaining in the St. Mary at Lambeth Church in London. Unfortunately, all of the other original stained glass windows were blown out during the war. Rene Richard, the artist of this newsletter's cover art, was inspired to draw this after he visited this church. This particular church was where his Great Great Great Great Grandfather was married. The first church built on this site was prior to the Norman Conquest. This church is the second oldest structure in the Borough of Lambeth (the crypt being the oldest), with burials and monuments dating back over 950 years. For more information on the history of the church that contains this interesting stained glass window, please visit <http://www.gardenmuseum.org.uk/page/the-church-local-history>.

Here is what the window looks like today:



# Baronial Calendar

Populace Gathering & Fight Practice: every Tuesday from 7:00-9:30pm\*\*

Baronial Court & Potential Tournament: 1<sup>st</sup> Tuesday of each month at 7:30pm\*\*

Business Meeting: 2<sup>nd</sup> Tuesday of each month at 7:30pm\*\*

Dance Practice: 3<sup>rd</sup> Tuesday of each month at 7:30pm\*\*

A&S Class: 4<sup>th</sup> Tuesday of each month at 7:30pm\*\*

\*\* Held at Boys & Girls Club, 30 W 26<sup>th</sup> St, Covington, KY 41014

## Upcoming Events

April 11, 2015 – Martial RUM and South Oaken A&S Regional (*Flame*)

April 18, 2015 – Grand Tournament of the Unicorn (*Marche of the Unicorn*)

May 9, 2015 – May Day (*Barony of Fenix*)

May 15-17, 2015 – Border Raids (*Kingdom of Meridies*)

May 23-24, 2015 – Spring Crown (*Barony of Cynnabar*)

June 5-7, 2015 – Northern Oaken War Maneuvers XIX (*Barony of the Cleftlands*)

June 13, 2015 – Barony of Fenix demo at the Milford branch library

June 19-21, 2015 – Push for Pennsic (*Marche of Havenholde*)

June 26-28, 2015 – Baron Wars XVIII (*Marche of the Marshes*)

July 24 – August 9, 2015 – Pennsic War 44

# Letter from the Baron & Baroness

Unto the noble populace of Fenix, Greetings!

Winter is finally at an end! We have now been assured of it by our King, by the reckoning of the calendar, and of course by the accomplishment of Winter's End at Fenix. Credit for the latter goes to Marcos and Bianca as well as the host of others who volunteered considerable time and talents. We are especially appreciative of those of our populace and friends whose energies made it possible to host not only our beloved King and Queen, but four other territorial couples, our noble cousins who along with us hold lands in the name of the Crown. To all who kept us fed, organized, and on schedule, thank you!

Winter's End also signals a full year that we have had the privilege of being your Baron and Baroness. We are grateful for the friendship and support of all who have spent this year with us, and we remain hopeful for the continued prosperity and happiness of our Baronial family. We feel that we have a good working relationship with a strong officer corps and a solid and growing group who are consistently working and having fun together. There is still room for more: more people stepping into roles as deputies for our officers and volunteers at our events; more growth of friendships with our neighbors and between the diverse segments of our populace; more new members invited, welcomed, and assimilated. (Resistance is feudal...it had to be said.)

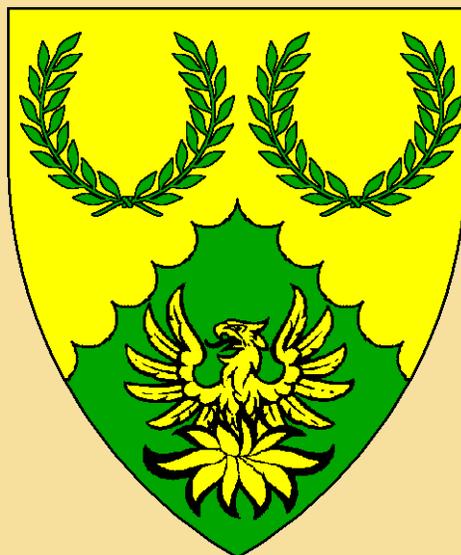
We look forward to the rapidly approaching reprise of May Day at Fenix, at which Baroness Artemisia will again organize the Dragon Chef Challenge and we will again host our anniversary tournament of the Gold Rose. Lady Mughain has plans underway for a fun hunt themed event this October, pending the approval of the Barony at our next business meeting. As of this writing a proposal has *not* been submitted for our traditional Martial Champions event, with a target date of Labor Day weekend. With the individual tests of skill overseen by our current Champions to assist in the selection of their successors, we still need someone to lead the charge. With all of these events, and any events that we host as a Barony, there is much that each of us can contribute. Sharing the load means sharing the success.

Registration is open for Pennsic! I, Sárnat, will again be your Land Agent for the Barony of Fenix. We encourage all of our people who are able to come to Pennsic and camp with us. Pennsic is always full of adventure, not all of it on the battlefield! We have a great location, an easy walk to the battlefield, merchants and classes, and good seniority on our block. Last year we added a food plan which was well received, and we had some brand new faces in camp. Let's do that again! (This time with fewer trips to Butler Memorial). For planning purposes I have created a calendar event in Facebook for our camp, and I will follow up with the Barony in every way possible as we approach the paid pre-registration deadline to ensure we have everyone registered who should be and a means to communicate.

Our weekly Populace Gathering and Fight Practices at the Boys and Girls Club have been going very well, thanks to the commitment of the Honorable Lord Angus, our armored and rapier (and occasionally youth) fighters and marshals, as well as those who continue to attend to teach, conduct Baronial business, and keep in touch. We have enjoyed seeing emerging new fighters, older fighters returning, and visits from esteemed neighbors. These weekly gatherings help to increase our sense of continuity and community with you, our Fenix Family.

Ever in service to you and to our collective Dream,

Ulf and Sárnat



# Letter from the Chronicler

The quarterly report has been submitted. I have been in contact with the Regional Chronicler to arrange a time at an event when she can give me a refresher course, so that I may become a warranted chronicler.

Thank you to everyone who sent in submissions for this newsletter. Please keep the submissions coming!

# Winter's End Wrap-Up

Winter's End was a smashing success. We had approximately 170 people attend this year. After 10 days of re-planning the entire event, our staff and volunteers rose to the task of hosting the final court before Their Majesties retired to the south for their vacation. The Oaken Region was well represented with the Baron and Baroness of Fenix, Flame, and Brendoken, the Baron of Flame, and the Baroness of Cleftlands all in attendance. The day was loaded with events all over the place. Classes aplenty, merchants hocking their wares, and more fighting than you could shake a stick at. Youth tournaments were fought in two divisions, rapier held multiple tournaments, and rattan fought a coin tournament which was won by the youth champion who presented his hurlbat to Her Royal Majesty.

The members of the site loved us and encouraged us to come back again. The site worked really well and would be even better for a warmer weather event when fighting can be put outside. The Baronial Coronets especially enjoyed having their own room to retire to.

We couldn't have done this without my staff. They deserve all the kudos for coming together and working hard to make this event happen. We look forward to next year's event and helping the autocrat grow the event once more.

Yours in Service,  
Marcos and Bianca, Event Stewards

# Arts & Sciences Corner

## The Easybake Armor Process

by Reinhold & Wilhelm von Glier

Every plastic has a different orientation temperature -the temperature at which the polymer first becomes amorphous and will accept new shapes without causing internal stresses. Pickle Barrels are almost all made of HDPE (high density polyethylene). The thermoforming range for HDPE is between 300 and 400 degrees Fahrenheit. That's far too hot to form on the human body, no matter how insulated -trust me (ouch). So:

1. SCA armorers tend to struggle with forming complex shapes (ie: the shapes of period armor) in plastics because they are usually working **nearly one hundred degrees too cold**. Thus...
2. To effectively form complex armor shapes, we will need to make molds or forms. **Using forms, we can effectively imitate historic armor shapes in plastic**. With sufficient effort, we can tailor our results to well within ¼" tolerances, which can be further improved later. But...
3. By taking the time to make forms, **we can make a dozen pieces of armor almost as easily as we make one**. If we take the time to make *many* forms, not only will we have beautiful armor, but we will be able to make a *lot* of it, cheaply. What would it mean to our recruitment if every Barony had a half a dozen full suits of beautiful armor in various sizes, just waiting to armor newcomers?

Happily, all this can be done on a shoestring. The critical element is heat, and almost every one of us already has perfect tools for this. **We will heat the plastic in our kitchen ovens**. Before we start: know how your oven works. Does it run hot? Have particular hot spots?

- Helpful hint: **When making armor, never turn your oven above 350 F. Even for pre-heat**. Respect this tool, because we are heating things that will smoke and may smolder if mistreated. There is no more danger in making armor than there is in baking a turkey, but families and roommates are less understanding of smoldering plywood than they are of burnt food.

### Step 1: Warming Boards

The maximum size of the armor you can make is determined by the size of your oven. Determine the interior size of your oven, and **cut your warming boards with at least 1" air gap** around all sides to allow even heating. Touching the oven walls leads to fires. **Protect the bottom of your plywood** from burning with a baking sheet, or layers of aluminum foil. The size of your warming board will be the maximum size of the plastic sheet you can conveniently thermoform. Large items like one piece globose or musculata breastplates will be problematic. Not that they can't be done, but because they will take a good bit of planning and experience, and they are a bad place to start.

- Plywood is a consumable item. You are drilling holes all over it -usually at least ten to twelve every heat, and each item requires two heats. Eventually it will wear out. Plywood will rapidly become useless if you allow it to smolder and char, but avoiding this does not change the fact that plywood will wear out.
- If you still have problems with burning the plywood, you can deflect direct radiant heat by leaving a baking sheet on the bottom rack of the oven.

## Step 2: Forms

You will need to make a positive form or mold that looks like the armor you want. This may seem daunting, but keep in mind that you can **make your molds out of things that are comparatively easy to work** -wood, clay, terra cotta, plaster, body filler (bondo is okay, not great, others are), even metal. Your imagination and your oven temperature are your limits.

- Ignore the conventional shapes of plastic armor and *pursue historic shapes*. It is high time we completely reset our expectations from plastic.
- I have successfully used forms built from 1) hardware cloth and plaster for complex greave and vambrace forms 2) 2x4s and bondo for elbow and knee armor 3) duct work pipe adjusted with wedges and hose clamps for cuisses and simple limb armor in general.
- Your mold material should be able to stand up 300+ F temperatures. Some observations:
  - The ignition point of wood is ~500F, but wood (especially plywood) will boil off its volatiles well before that point. It will smoke the first time you bake it –and plywood will smoke a LOT. Open windows, turn on fans, turn off the smoke detector. Warn friends and family beforehand.
  - Bondo begins to lose cohesion above 180 F. In practice, if you do not pre-heat the mold, all that really happens is the bondo cracks and begins to pull away from the base material, but is still good for many uses. There are high temperature body fillers available. Specifically, **AdTech Marine P-77 High Heat Filler**, which is perfect for our application –but four times as expensive as normal bondo.
  - Plaster begins to break down at 400 F. If you follow recommendations and never heat your oven above 350F, this will never be a problem and plaster will work wonderfully for you. If you don't... you'll be repairing plaster.
  - Old armor can also be made into *excellent* forms, with modifications like brackets to allow the pieces stand on end.
- If the mold allows, consider making clamps. (See picture) If you are making more than one, it will be worth your time.

## Step 3: Heating the Plastic

Heated to thermoforming temperatures, **barrel plastic will contract along its longest axis** – sometimes dramatically. I think it is trying to reduce its surface area, but it may be reacting to stresses created in producing the barrel. I don't know if virgin HDPE sheet will do this, or if any other plastics do either. This property actually makes for better armor, because when the plastic pulls away from its original shape, it thickens –again, sometimes dramatically. Thermoformed armor will often be much stouter than what one would expect from barrel plastic. So to work with barrel plastic, **we need to anchor the plastic down when we heat it. Screws or nails are most convenient** for this. Of the two, screws are much better.

To start you will cut a large rectangle from barrel plastic. There will no longer be any “patterning” as such; you will simply need to start with a sufficiently large rectangle to cover the form and allow for clamping (later you will go back and trim the flashing.) If you cut generous amounts of plastic you may not be bothered by moderate shrinking, and may be satisfied with three or four screws per side around the perimeter. If you are doing production and measuring your plastic to get the most out of every barrel, you will want to screw the plastic down to the warming board at least every four inches.

Place the warming board and plastic into the oven set somewhere around 325-350 F. Walk away and do something else for twenty minutes to a half hour. Don't forget about it, though!

You'll know the plastic is at thermoforming temperatures when it has the consistency of hot taffy. At that point the surface will look slick and glossy, and the plastic will be tugging against/pulling away from the screws/nails.

### Step 4: Molding the Plastic

Work quickly now! Don't rush, but move with a purpose –you're losing heat. Take the plastic out of the oven. Using oven mitts or insulated gloves pull the plastic off the screws. The plastic will pull away with light tugging, and will stretch in your hands like taffy. If the plastic has shrunk too much, you can stretch it back in your hands at this point, but don't pull too aggressively, because you can "tear" the plastic and wind up with a spot as thin as a plastic bag.

Using your gloves or mitts, mold the plastic around the form. Smooth, squish or stretch as necessary. (see picture)

Next, secure the plastic around the mold. Clamping is a very good idea. If you have a part you are reproducing often and you spent the fifteen minutes to cut out and drill a plywood clamp beforehand, you can have your workpiece clamped down in seconds with just a few screws. If you have *not* done this, use screws spaced as closely as possible. One to one and a half inch spacing is good. The danger of spacing your screws further apart is that the plastic may pull away from them in the oven.

- If you do not use clamps, you will want to make your molds taller than necessary so you can trim away the bottom area distorted by screw tracks and uneven bends.
- If you don't have a hand drill to use screws, nails **will** work. Roofing nails hold the plastic much better than screws will, but it tends to be inconvenient to drive them quickly and accurately into blazing hot plastic.
- Construction staples and brads will **not** work. We tried.

Put the whole thing back in the oven. Industry literature indicates there is a "soak" time that the polymer needs to be held at thermoforming temperatures, but we have not found how long this soak time needs to be. For convenience I toss them in for half an hour. By that point white plastic tends to be completely clear again, which indicates it has achieved orientation temperature.

### Step 5: Trimming

Remove the workpiece from the oven and set it aside to cool slowly. First, **trim away as much plastic as you dare while it is still hot**. Use any sharp knife for this and press firmly but not hard. The hot plastic will cut about as easily as raw meat, and trimming now will greatly simplify finishing.

When the plastic cools, remove it from the mold. You may need a mallet for this. Next, saw away the flashing.

Mark out the finished shape of your armor. This is an important step, but I can't tell you how to do it. You can freehand this with a sharpie, or lay it out perfectly evenly with a scribe block and marking gauge, or anything in between.

Saw out your finished shape. Again, this step is important, but I can't tell you how.

## Step 6: Finishing

Most moldings will be uneven on the surface, so you will probably want to do some kind of surface treatment on your armor blank. A wood rasp will even the surface out very quickly, or you can use a spoke shave, or even a sanding block. I use a belt grinder because I have one handy.

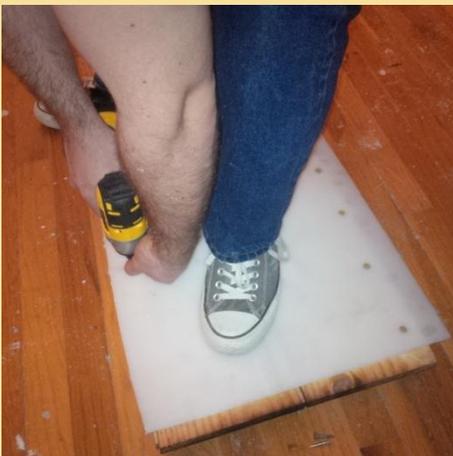
Gently brushing the plastic with an open flame will melt any plastic “fuzz” still on the surface. At this point, hidden armor pieces are about as good as they’re going to get.

For exposed armor, we can imitate 14<sup>th</sup>-16<sup>th</sup> century armors with a textile covering. For that you can use a spray adhesive (Loctite and 3M tested the best) to glue a durable fabric to the plastic armor. To secure it, drill or punch evenly spaced holes for solid copper roofing nails, commonly available at hardware stores (you may have to place an order for in-store pickup) and online, and clip them close to peen as rivets over a washer. Copper roofing nails fit best inside a #6 washer. This can be a very decorative process.

## Conclusion

Please share this process. Improve it if you can, and share your results and your creations. We are all known by our works, and every post matters. I firmly believe this can be a powerful tool to both improve the look of our game for each other, and to make SCA combat accessible and appealing when we share with newcomers.

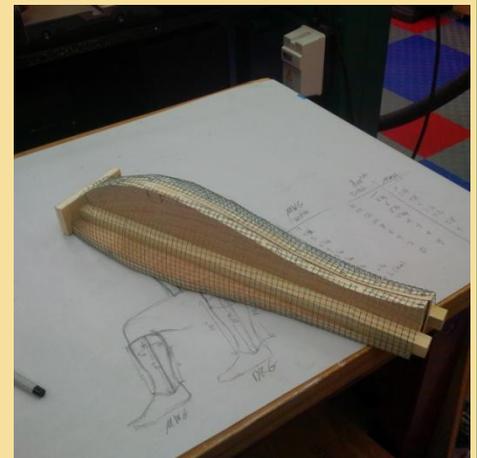
Reinhold von Glier  
Wilhelm von Glier



Screwing plastic onto a warming board



Making elbow molds from wooden blocks and finishing with bondo.



Back half of a greave mold, made from hardware cloth tacked onto a plywood silhouette. In progress.



Front half of greave mold. Hardware cloth covered in plaster. Made in two parts to allow for different sized legs, adjust with wedges.



Pulling plastic off the warming board.



Molding hot plastic onto an elbow form.



Finished elbow mold using clamps, ready to go back in the oven. I use less excess plastic now.



Finished molding without clamps.



Finished greave mold, also without clamps. Fighting to dig out our screws convinced us to try making clamps.