

**BOARD OF DIRECTORS**

**Steve King '26**

President:  
1155 S. Paoli Unionville Rd  
Paoli, IN 47454  
(812) 797-0059  
kingstephen228@gmail.com

**Gary Phillips '26**

Vice President:  
14800 N SR 167 N  
Albany, IN 47320  
(260) 251-4670  
behere@netdirect.net

**Bill Corey '27**

Secretary:  
3398S CR 225E,  
Danville, IN 46122  
(317) 919-1047  
bc65925@gmail.com

**Rob Hough '27**

Membership Secretary  
9790 N Sharp Bend Rd  
Albany, IN 47320  
(317) 517-0427  
Rob.Hough@gmail.com

**Jeff Reinhardt '24**

2810 W. Riley  
Floyd's Knobs, IN  
(812) 949-7163  
ptreeforge@aol.com

**Dave Kunkler '24**

Treasurer  
20749 Lancaster Rd.  
Branchville, IN 47514  
(270) 945-6222  
dwkunkler@yahoo.com

**Daniel Sutton '25**

Education Chairman:  
504 Owen St.  
Lafayette, IN 47905  
(765) 586-1376  
daniel@suttonindustrialarts.com

**Bob Hunley '25**

258N CR 800E  
Sullivan, IN 47882  
(812) 239-4767  
roberthunley@yahoo.com

Librarian: Larry Rosentrader  
8715 E. 375 N  
Churubusco, IN 46723-9501  
260-693-3267  
lrosentrader@gmail.com

Editor: Bill Kendrick  
1280 N 900 W  
Seymour, IN 47274  
(812) 344-1021  
cmikendrick@gmail.com

Awards Chairman: Brad Weaver  
2703 South Water Plant Road  
Westport, IN 47283  
(812) 371-8674  
bweaverhlw@yahoo.com

# THE FORGE FIRE

**The Newsletter of the Indiana Blacksmithing Association, Inc.  
An Affiliate Of The Artists-Blacksmiths' Association of North  
America, Inc.**

IBA is a Not For Profit Indiana Corporation recognized by the IRS under section 501(c)(3)

9:30 AM is the regular meeting time for IBA Hammer-Ins  
with beginner training available at 9:00 AM.  
**PLEASE MAKE SURE TO ASK FOR HELP!**

**If you would like an IBA membership application form,  
please contact Farrel Wells, Membership Secretary  
(765) 768-6235.**

BULK LOTS ARE AVAILABLE TO DEMONSTRATORS,  
SHOPS, SHOWS AND OTHERS WILLING TO MAKE THEM AVAILABLE.  
WE APPRECIATE YOUR HELP.

The Indiana Blacksmithing Association, Inc., its staff, officers, directors, members, and hosts and the *Forge Fire*, specifically disclaim any responsibility or liability for damages or injuries as a result of any construction, design, use, manufacture or other activity undertaken as a result of the use, or application of, information contained in any articles in the *Forge Fire*. The Indiana Blacksmithing Association, Inc. And the *Forge Fire* assumes no responsibility or liability for the accuracy, fitness, proper design, safety, or safe use of any information contained in the *Forge Fire*.

*The Forge Fire* is the newsletter of the Indiana Blacksmithing Association Inc. (IBA) IBA is an affiliate of the Artist-Blacksmiths Association of North America Inc. Permission is granted to other similar non-profit organizations to reproduce uncopyrighted articles originally appearing in *The Forge Fire* provided credit is given the original source.

**More nearby resources and organizations for blacksmiths:**

**Rural Smiths of Mid-America:**  
Meetings are on the first Saturday of each month  
Call Ron Gill  
317-374-8323 for details

## IBA MEETING SCHEDULE

Check the latest *Forge Fire* for monthly IBA revisions.

Nov 18 2023	<h3>Check next month's Forge Fire for hammer in updates</h3>
Dec 9 2023	
Jan 20 2024	
Feb 17 2024	



## Bunkum Valley Metalsmiths (IBA Fall Conference)

The Bunkum Valley Metalsmiths hosted our second Southern Indiana Blacksmith Conference on October 6th and 7th. We had a good attendance from all over. On Friday afternoon Randall Kinnamon and his able helper Case, age 5 demonstrated sandcasting with both aluminum and brass. See the pictures below. Thank you both for the presentation and the prep work it took. Thank you to everyone who pitched in on our dinner.



Saturday kicked off with a big breakfast thanks to Steve Stoll and his son Jeff, it was delicious. The first presenter was Josh Samson who demonstrated tong making. Then Josh and Justin Decker and demonstrated horseshoe making and also collaborated on a horse can opener. Excellent work Josh and Justin we had great feedback.

We had some excellent items in the IBA Iron in the Hat including Steve King hammers, tongs, custom coffee cups with anvils, honey, different chunks of metals, handmade rolling pin, potato mashers and a dinner bell just to name a few. Thank you to everyone who donated.



Our final presenter was John Bennett who demonstrated how to "blow up" metal (my term for it anyway). This was very interesting and fun to watch. He said he spent about 4 days preparing his materials so that he was able to show us different shapes and possible outcomes. Enjoy the pictures and there are more on John's Facebook page if you are interested. Thank you John, we all enjoyed your presentation and the hands on of the objects you puffed up!



Thank you to everyone who attended the conference, the IBA officers, presenters, the folks who cooked up some good food and of course our club. A very special thank you to Jim Ray Malone who spent countless hours preparing and setting up for the conference in addition to Kathy Malone for hosting. Enjoy the pictures!

IBA website: [www.indianablacksmithing.org](http://www.indianablacksmithing.org) IBA Facebook page: [www.facebook.com/groups/IndianaBlacksmithingAssociation/](https://www.facebook.com/groups/IndianaBlacksmithingAssociation/)

## IBA Satellite Groups and News

**1) Sutton-Terock Memorial Blacksmith Shop**

Meet: 2nd Saturday at 9 AM  
 Contacts: Fred Oden (574) 223-3508  
 Tim Pearson (574) 298-8595

**2) Jennings County Historical Society Blacksmith Shop**

Meet: 2nd Saturday at 9 AM  
 Contact: Paul Bray (812) 521-7177

**3) Wabash Valley Blacksmith Shop**

Meet: 3rd Saturday at 9 AM  
 Contacts: Bill Cochran (812) 241-8447  
 Max Hoopengartner (812) 249-8303

**4) Fall Creek Blacksmith Shop**

Meet: 4th Saturday at 9 AM  
 Contacts: Gary Phillips (260) 251-4670

**5) Maumee Valley Blacksmiths**

Meet: 2nd Saturday  
 Contacts: Clint Casey (260) 627-6270  
 Mark Thomas (260) 758 2332

**6) St. Joe Valley Forgers**

Meet: 4th Saturday at 9 AM  
 Contacts: Bill Conyers (574) 277-8729  
 John Latowski (574) 344-1730

**7) Rocky Forge Blacksmith Guild**

Meet: 2nd Saturday at 9 AM  
 Contacts: Ted Stout (765) 572-2467

**8) Meteorite Mashers**

Contacts: Mike Mills (812) 633-4273  
 Steve King (812) 797-0059  
 Jeff Reinhardt 812-949-7163

**9) Whitewater Valley Blacksmiths**

Meet: 2nd Saturday  
 Contact: Keith Hicks (765) 914-6584

**10) Bunkum Valley Metalsmiths**

Meet: 1st Saturday  
 Contacts: Jim Malone (812) 725-3311  
 Terry Byers (812) 275-7150  
 Carol Baker (317) 809-0314

**11) Covered Bridge Blacksmith Guild**

Meet: 1st Saturday  
 Contact: John Bennett (812) 877-7274

**12) Snake Road Forge**

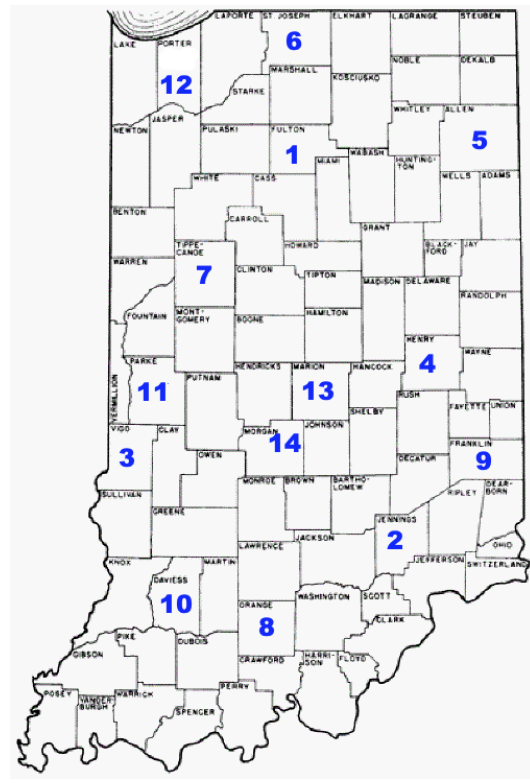
Meet: 1st Saturday  
 Contact: Rod Marvel (219) 241-0628

**13) Satellite 13**

Meet: 4th Saturday  
 Contact: Darrin Burch (317) 607-3170  
 Doug Wilson (317) 439-7684

**14) Old Town Waverly Blacksmiths**

Meet: 2nd Saturday  
 Contacts: Mike Lyvers (317-728-5771),  
 Kenny Hale (765-318-3390),  
 Mike Jackson (317-509-9115).



**Jennings County Historical Society Blacksmith Shop**

At our Sept meeting , Kenny Dettmer, Bill Kendrick and Dave Good worked on fine tuning our newly acquired power hammer. Dave then decided to try it out. After a brief trial, it was decided that mire work needed to be done.Dave worked on a pair of tong blanks.after finished the blanks, he worked with Tom and showed him the steps to making a leaf keychain and worked him through his first one. Then he welded a loop and the the fire poker from the weekend and closed the basket up some. at 1:00 we met at Gerald Williams shop to have a memorial to remember a member of our team. He was a volunteer fire fighter and left his fire truck . We will miss him .

# Scroll Layout

Daniel Sutton

We often see organic scroll forms in iron work, both new and old. Throughout history, these scrolls based on organic forms have decorated a variety of designs. As blacksmiths we think of forged scrolls, but the motif has been prevalent in ceramics, textiles, woodwork, and nearly any medium that can be thought of. As a design element, scrolls can be used in a variety of ways to add our designs. In this article, I will share some of the learnings that I have found while studying this design form.

These scrolls can be drawn freehand in a way that is pleasing to the eye or they can be laid out using simple tools. One of the challenges to laying out a scroll to fit the space is how to size it properly. In this article I will show you one method that can be used to accurately layout and size a scroll in a given space.

Removing the guesswork from setting up our projects can save us time, material, and fuel. By using a compass, ruler, and pencil we can remove a lot of the trial and error that can hold back creativity. This process will require some time to practice, but you will save time and headaches when working on future projects.

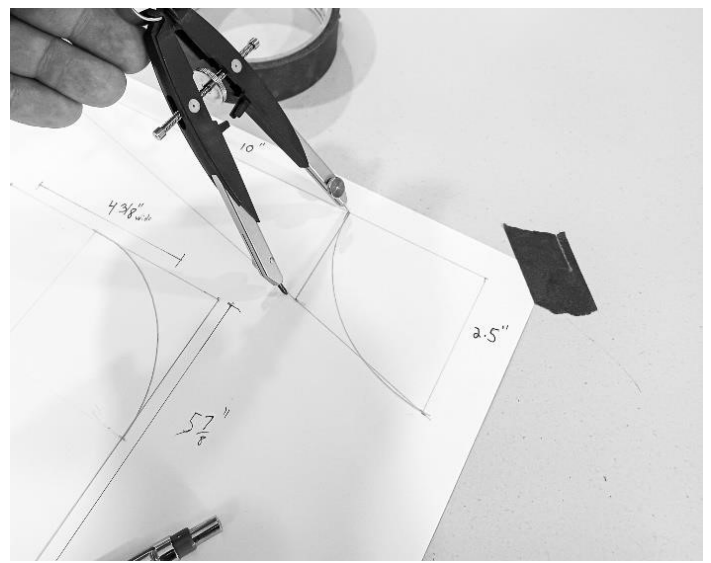
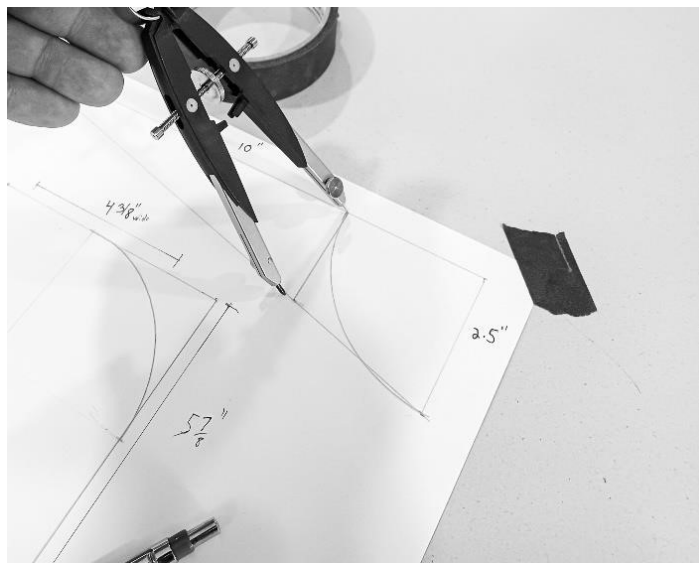
For this exercise we will imagine a scenario of creating a scroll for an opening in a grill. The first step in the process is to determine the width of the scroll required. In the final piece your scroll will be a smooth flowing curve. To layout that curve we will build it from partial circles of decreasing radius.

The radius of each circle can be determined in multiple ways. You have the option of laying out the Fibonacci spiral, but that method leads to a scroll with a little more negative space than some people like. For this method we will be using a 1x4 triangle.

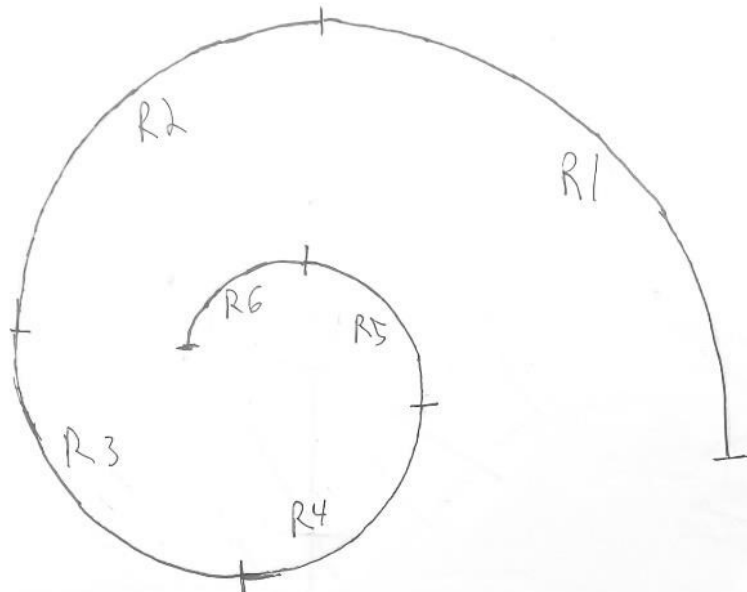
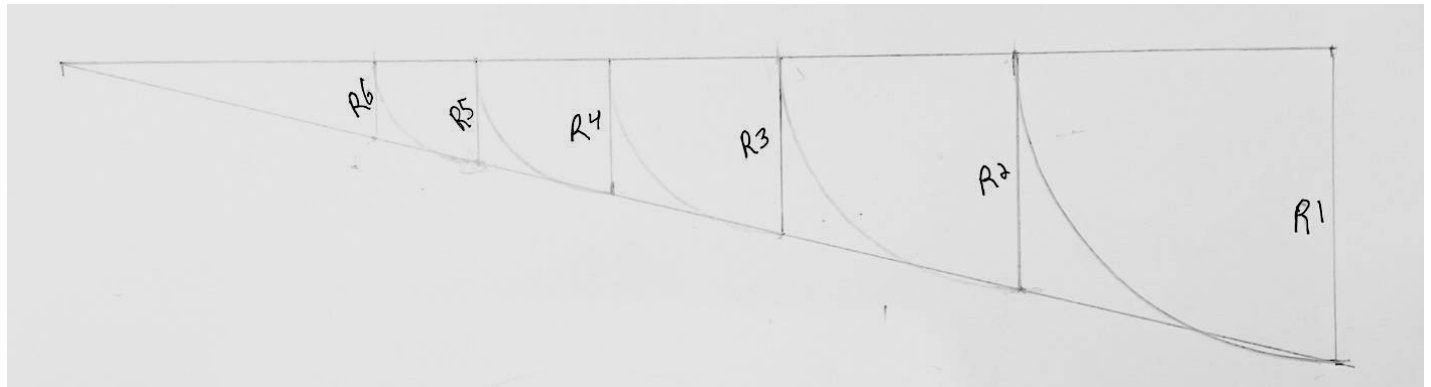
Using this method, the shrinking radius of the scroll is determined by the geometry of the triangle. Using this triangle method, we can determine the radius of each segment of the scroll. We start by drawing a 1x4 triangle. The radius of each segment of the scroll is determined by the length of the long leg of our triangle to the hypotenuse. The previous radius determines the length of the step to the next radius. We can measure the radius along the long leg of the triangle and draw a line to the hypotenuse. The length of that line is the radius of the next segment of our scroll.

We set our initial radius to the short leg of the triangle. We can then sweep our dividers up to the long leg of the triangle. The distance between this intersection point and the hypotenuse is our next radius. We can repeat this process until all segments of the scroll are identified. The photo below shows the decreasing radii being laid out on paper.

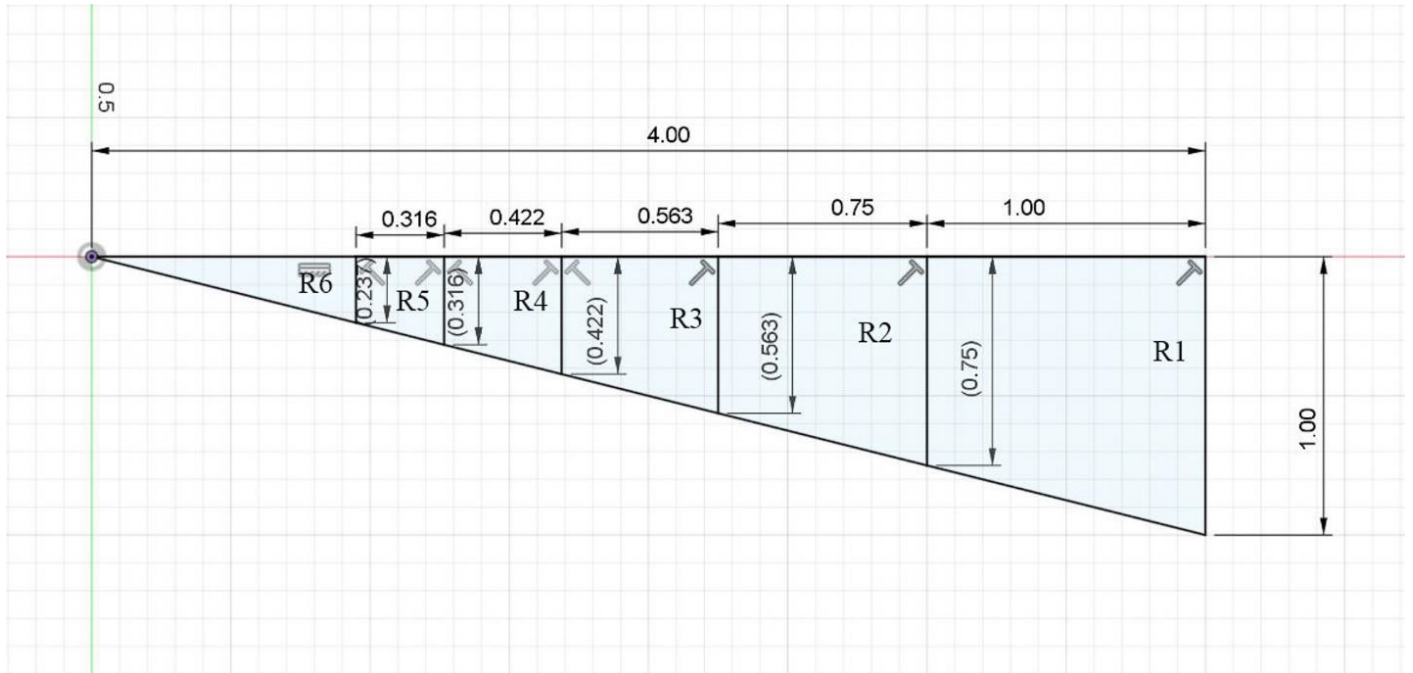




You will end up with each segment of your scroll appearing along the triangle.

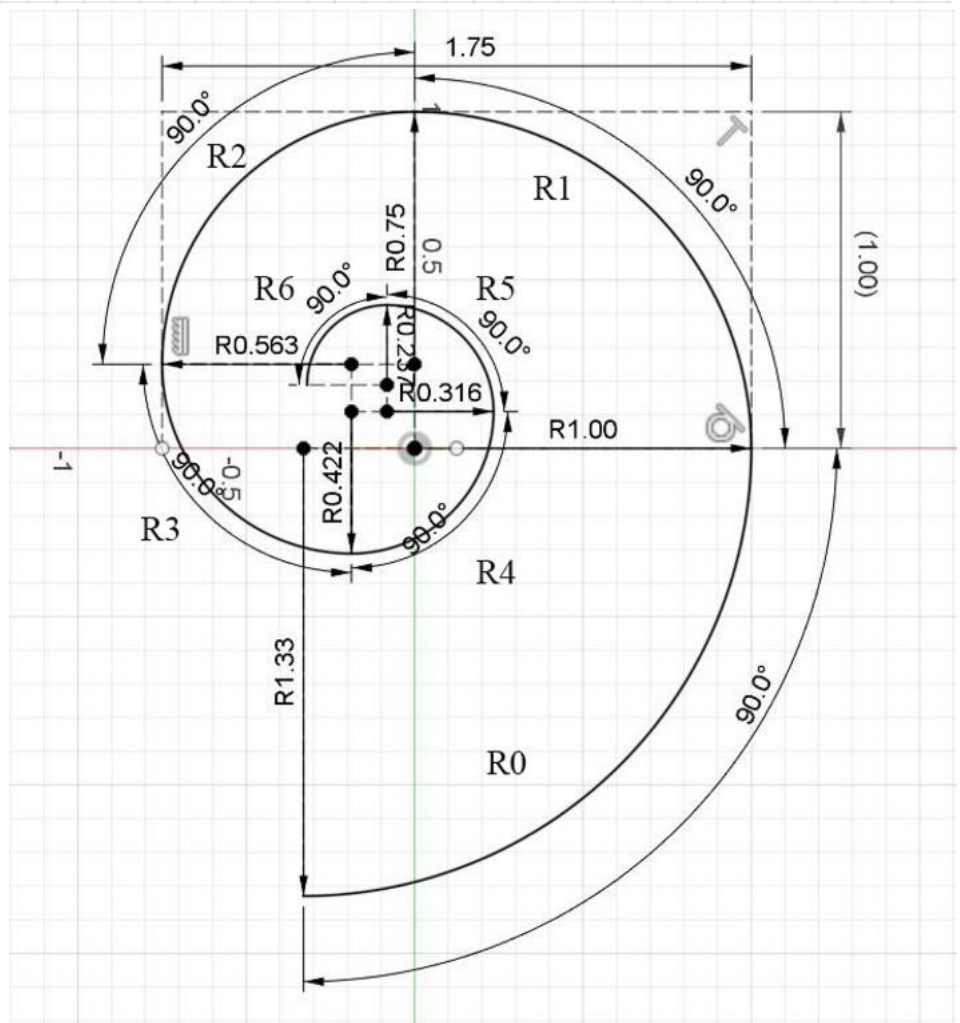


By adding dimensions to the triangle, we can begin to build a method for understanding the relationship between the segments of our scroll. In the following drawing, the measurements of each segment are listed.



We can see that, when using a 1x4 triangle, each segment is 0.75x the length of the previous segment. We can now lay out a scroll using those dimensions. The scroll shown to the right uses the same dimensions as the 1x4 triangle.

You may notice that one of the radii of the scroll is larger than the one inch of the triangle. Since each step is 0.75x the previous step. We can use some simple math to determine the next larger radius than our starting point. In this case we divided the original one inch by 0.75 and get 1.33. This will become very helpful as we begin to fit a scroll to a given dimension.



Now that we have a handle on the relationship of our dimensions, let's determine a formula to use to size our scrolls. Using the previous scroll, we can see that the scroll is 1.75 inches wide. From this we can determine the length of the long and short legs of our 1x4 triangle. Since the length of the short leg of our triangle is the same as the first radius of our scroll, I will call it R1. I will call the width of the scroll W. Using the measurements above we can build the equation of:  $R1 = (W / 1.75)$

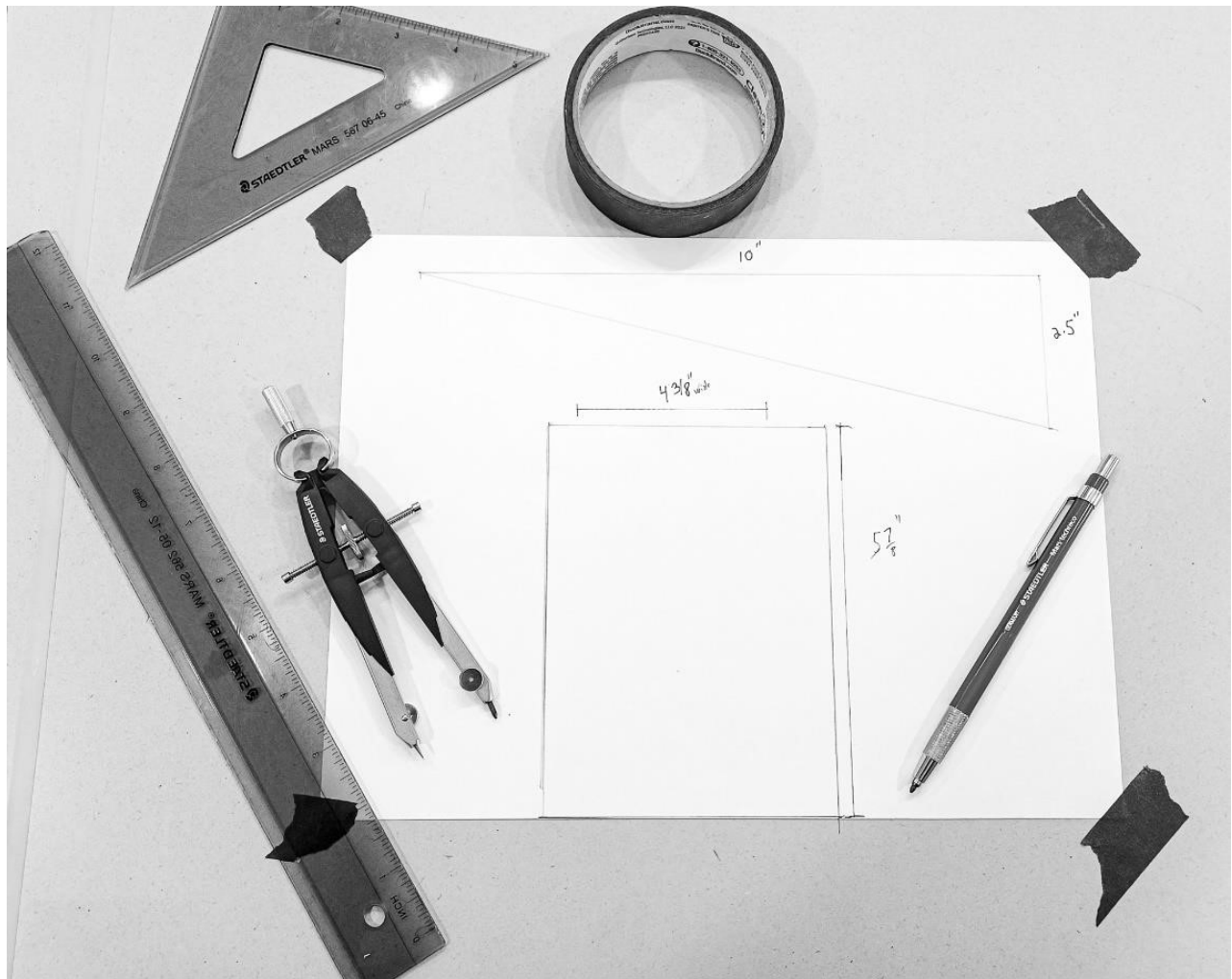
For the drawing above this works out to:  $R1 = (W / 1.75) = (1.75 / 1.75) = 1$

We can now use this information to see if we can draw a scroll to fit a given dimension. The ABANA Level II grill is a good test case. We know that the scrolls need to be  $4 \frac{3}{8}$ " wide to fit in the grill. This will give us the opportunity to test the theory and see if we can come up with a known result.

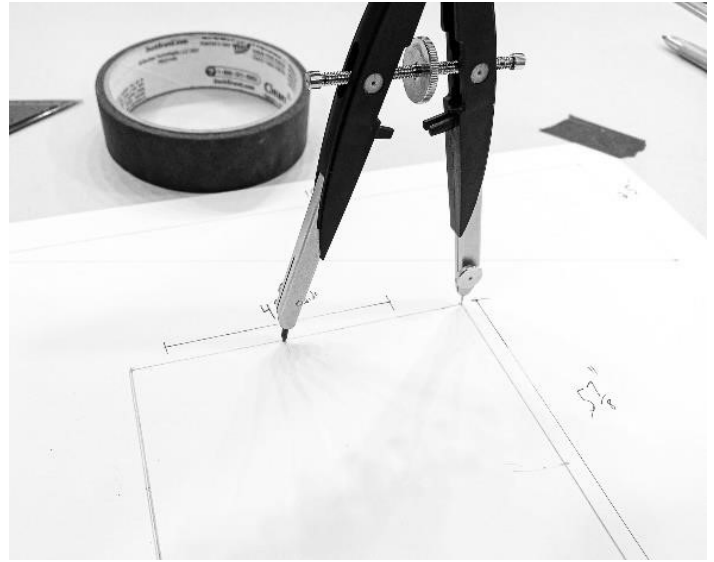
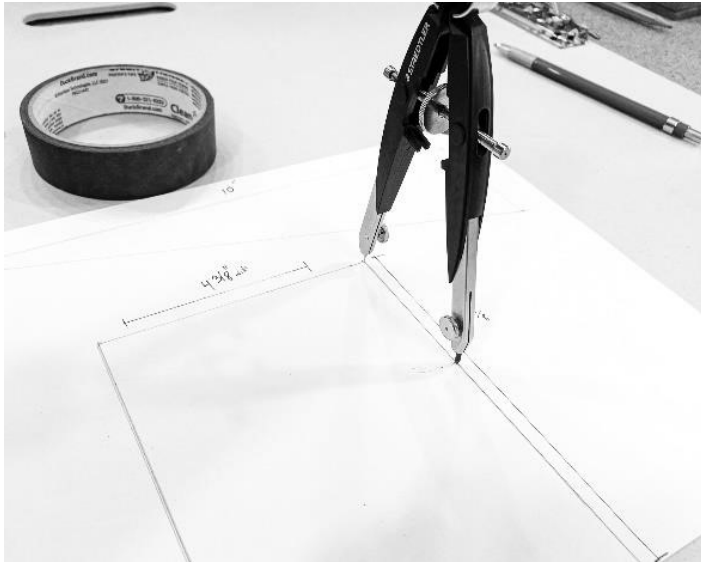
Using our equation we can determine the length of the short leg of our triangle.

$$R1 = (W / 1.75) = (4.375 / 1.75) = 2.5$$

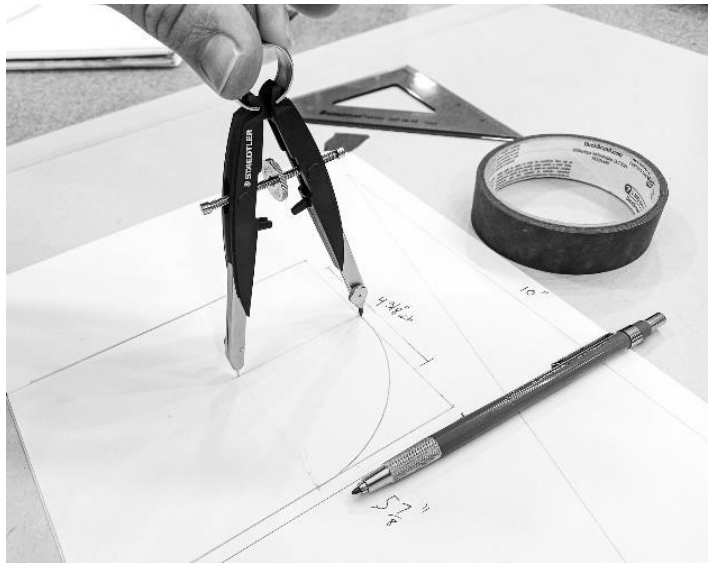
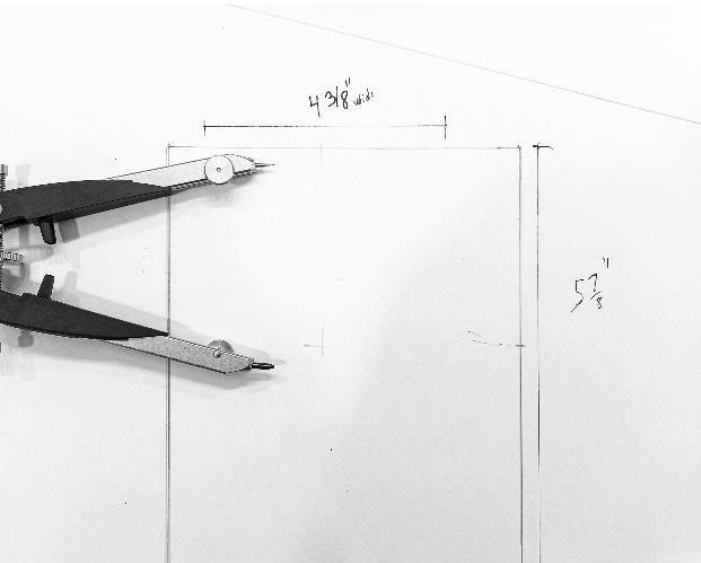
Since the short leg of our triangle is 2.5" and we know that the long leg of the triangle is four times that length, we know our triangle is 2.5"x10". We also know that each quadrant of the ABANA Level II grill is  $4 \frac{3}{8}$ " x  $5 \frac{7}{8}$ ". We can set up a sheet of paper to draw a quadrant of the grill. Below I have drawn a rectangle and triangle of the required dimensions.



We are now ready to begin filling in the segments of the scroll. We will start by drawing in our first radius. To locate the starting points, I have used the top right corner as a reference to measure, using the dividers set to R1, the intersection points of the first segment.

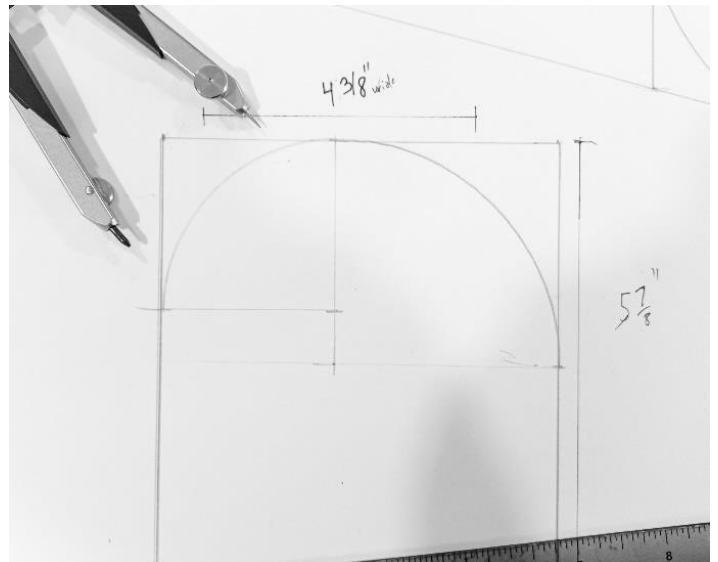
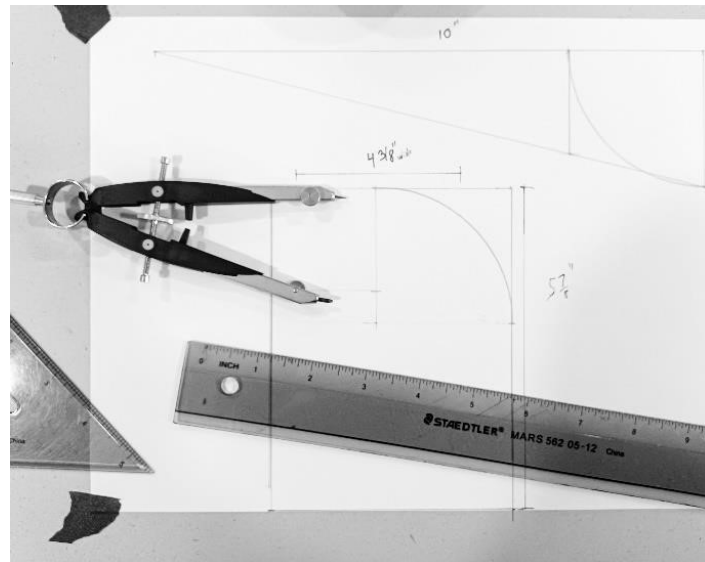
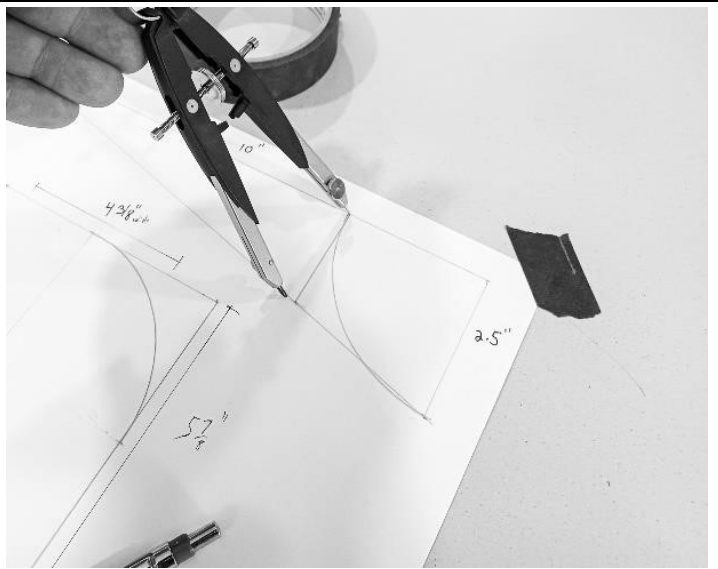
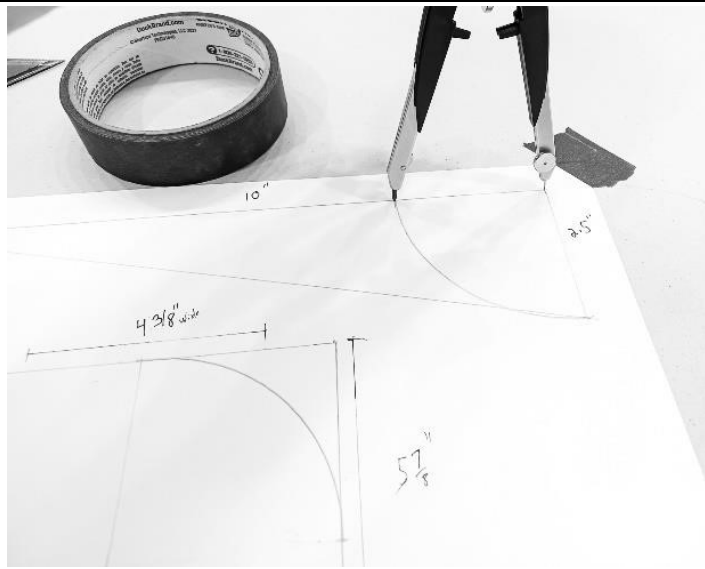


I like to lightly draw lines to use as guides while I'm doing this. Since we know what the result will look like, I was careful to start and stop in the correct locations.

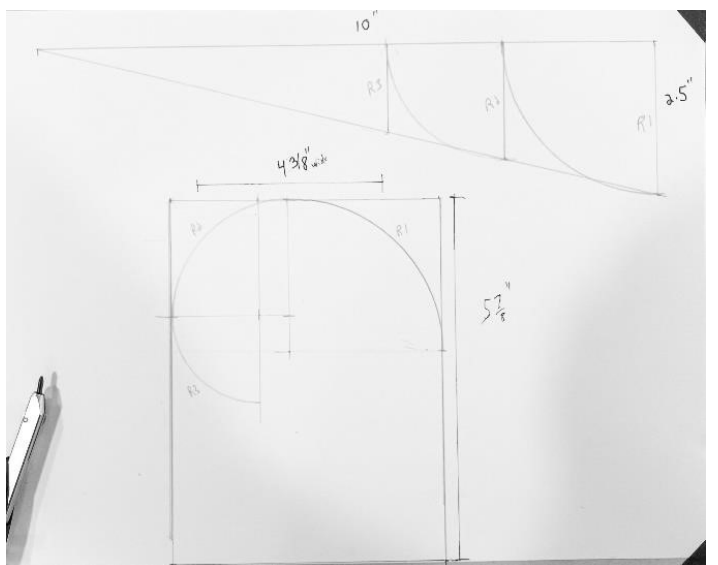
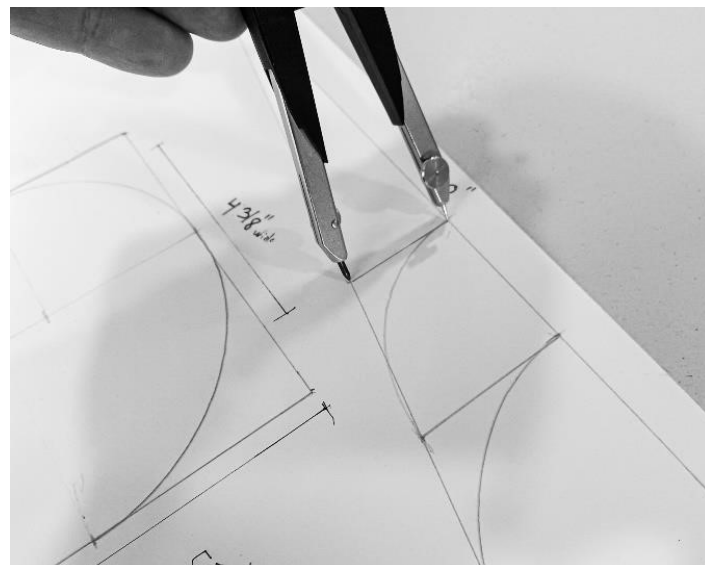


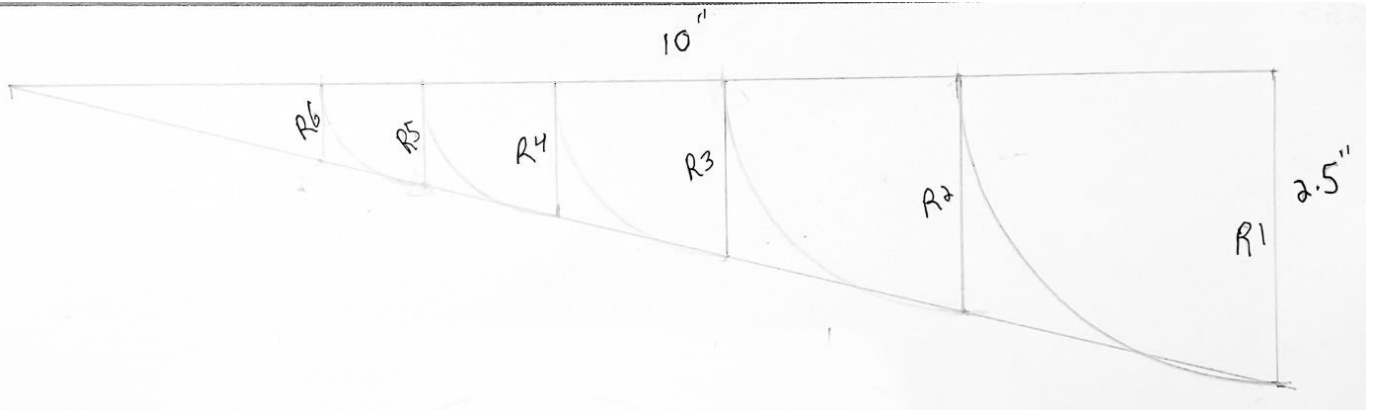
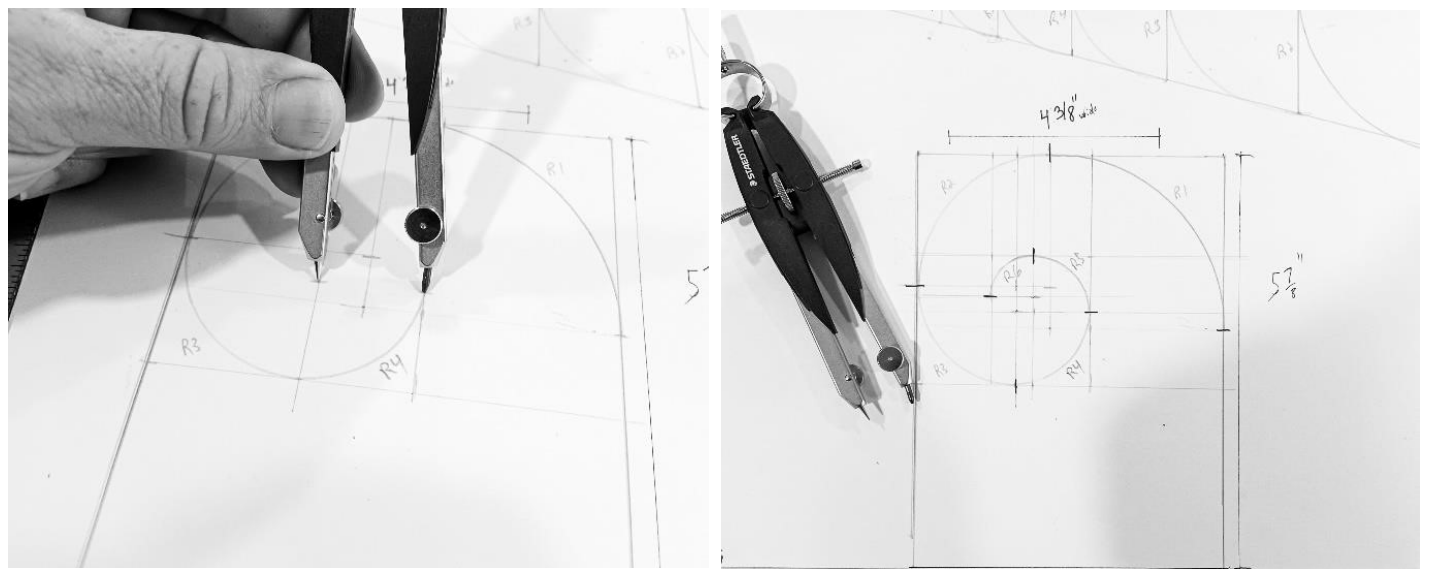
Now we just work our way down the triangle adding each subsequent segment. If we are worried about complete accuracy, we can continue to add light construction lines to place each segment. These are done by setting reference marks as you go.





We follow the same method to add each segment until we get to the end.

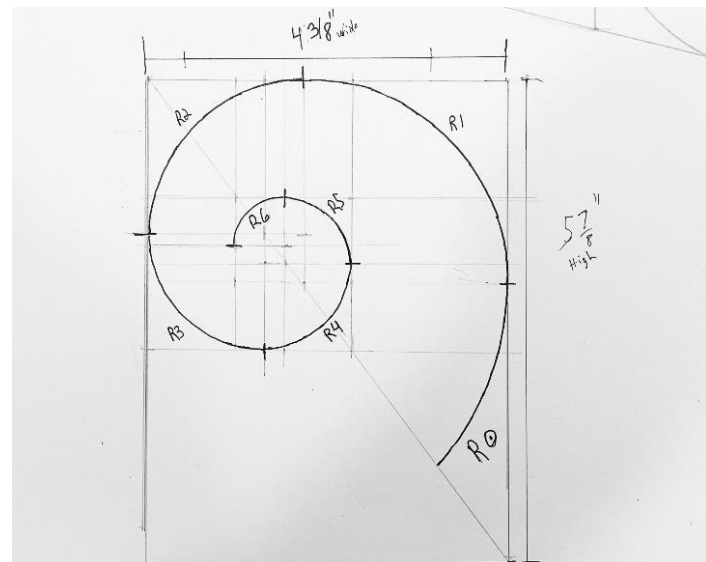




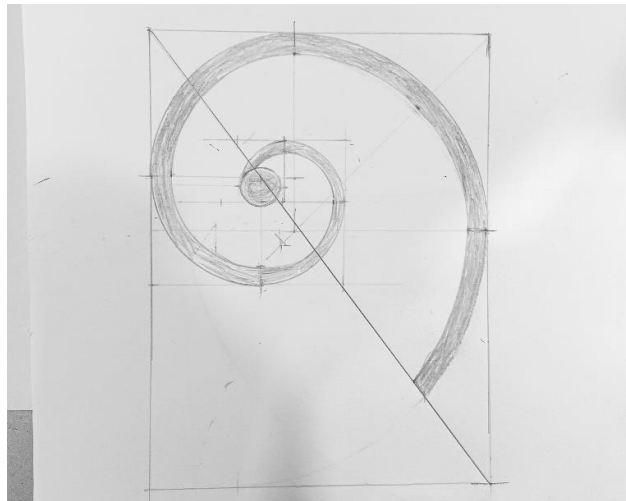
Now we can find the radius of the segment that is larger than our starting point, I call it R $\emptyset$ . Using our equation, we can see that this radius is:

$$R\emptyset = (R1 / 0.75) = (2.5 / 0.75) = 3.33333333$$

Converting to fractions of an inch, this is a little larger than 3 5/16". We can set our compass and draw in this last segment.



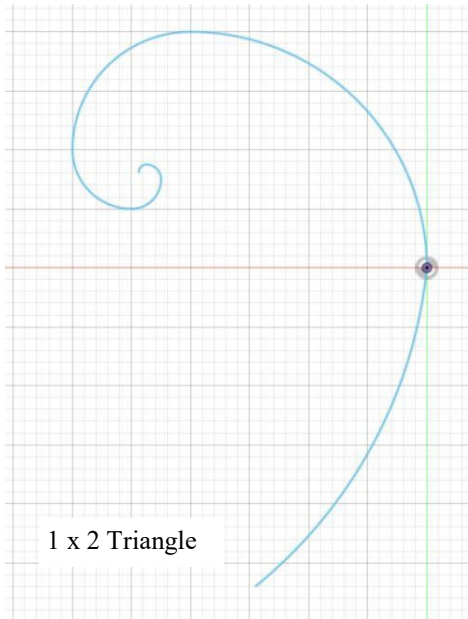
In this drawing, I have ended the segment at a line running diagonally from the top left to the bottom right of the rectangle. When looking at the Level II grill drawing, this is the point that transitions from the scroll to the straight section in the middle.



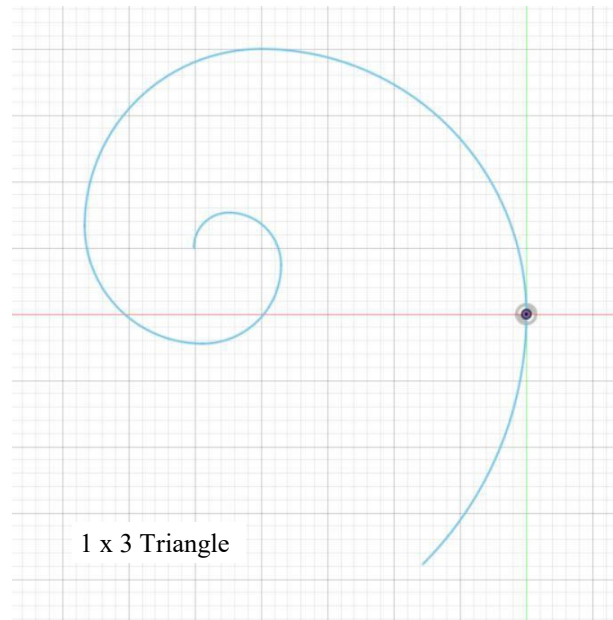
If you feel like stretching the exercise even further, you can use each your segment starting points with a  $\frac{1}{4}$ " smaller radius. This will give you the offset for the the thickness of the stock used in the grill. Here I have done so with the Hay Penny scroll.

By varying the size of the triangle used to determine our scroll segments, you can place scrolls that fill more or less space. Each of these scrolls were drawn using a triangle with different proportions.

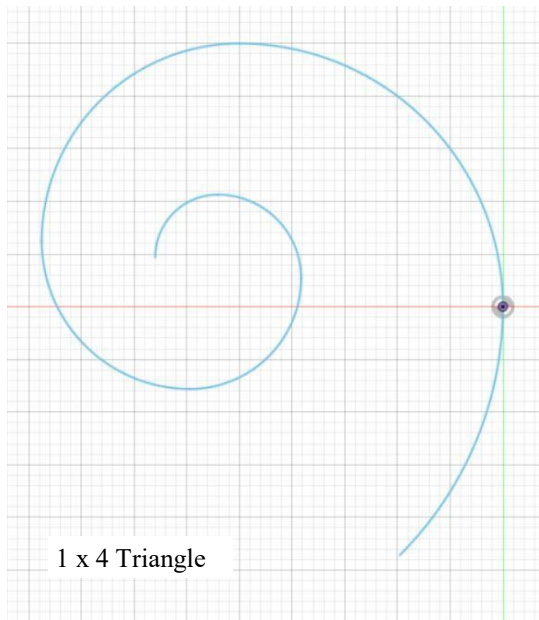
The geometry of the triangle used can have a major effect on the resulting scroll. Depending on the design and stock size used, a different scroll geometry may be more pleasing to the eye.



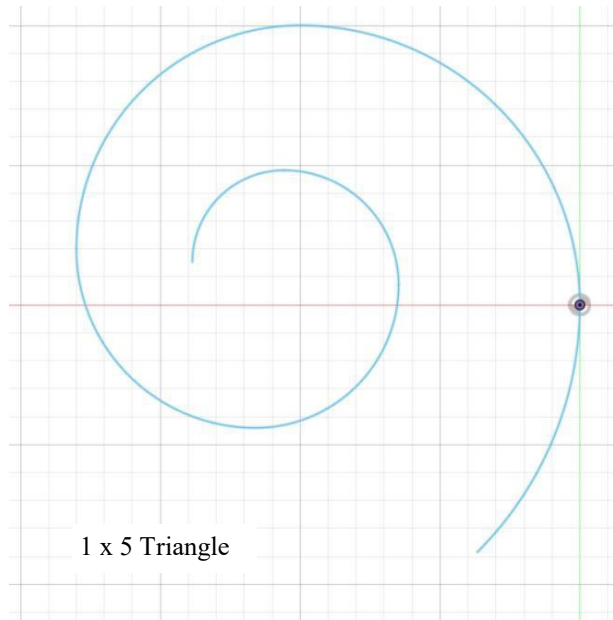
1 x 2 Triangle



1 x 3 Triangle



1 x 4 Triangle



1 x 5 Triangle



**The FORGE FIRE**  
Newsletter of the  
Indiana Blacksmithing Association, Inc.

**Rob Hough**  
Membership Secretary  
9790 N Sharp Bend Rd  
Albany, IN 47320

Address Correction Requested  
If Undeliverable return to  
sender

First Class Mail



Josh Sampson  
and Justin Decker  
demonstrate at  
IBA Southern  
Conference

