

We were approached by a client to produce 6 copies of this 17th Century German Folk Art chandelier. It was determined that the chandeliers were to be forged from genuine wrought iron. This was done to duplicate the texture and feel of the original piece.



Scale drawings and sample pieces were made so that the client could see how they would appear. Shown: twisted chandelier arm with candle cup and hand forged bird.



A bar of genuine wrought iron was split using a hot chisel. The 2 halves were tapered making them longer and thinner. This piece will be formed into the split double scroll.



Forming the bottom split scroll on the anvil. Our client was very discerning and aware of the differences between forged iron and steel that has merely been cut out. A bar was taken and split lengthwise and the 2 halves were tapered and scrolled.



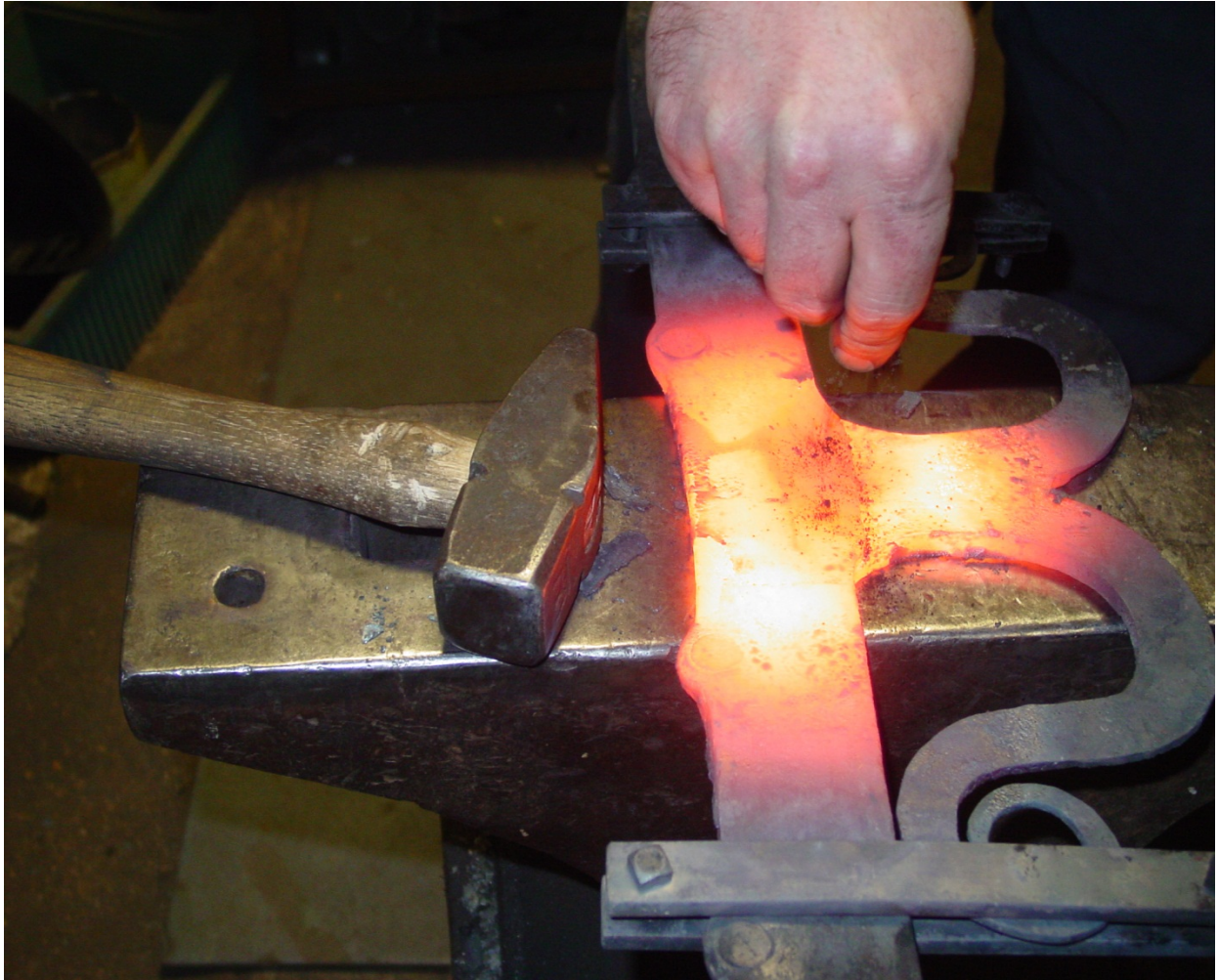
More forming of the bottom split scroll.



Using the horn of the anvil to adjust the spacing of the scroll to achieve the desired contour.



Checking the symmetry of the scroll by eye.



Fluxing the two parts in preparation to join them together by forge welding.





Forge welding the bottom split scroll to the cross arm. This step requires proper preparation and quick movement. Pausing for even a few seconds could result in failure to achieve fusion between the two parts.



In this photograph, the bundle of arms and the central shaft of the chandelier are heating in a coal forge. They will be heated up to approx. 2500° F. At this temperature, the metal can be welded together on the anvil using the smith's hammer.



The bundle of arms, once heated to the proper temperature, are hammered together by the smith. This is called forge welding.



Brushing off the scale from the forge weld to keep the metal smooth and clean.



After much hammering and proper heating, the 7 bars of metal that constitute the chandelier have been united into 1. This method of welding achieves smooth, organic transitions between parts not possible using electric welding.



This is another view of the finished bundle weld showing the twisted arms that will be bent out to form the arms that will hold the candle cups.



The chandelier body had been welded. The arms are now bent while hot away from the central shaft. Bending these arms is a multi-step process.



A jig was constructed to bend the arms all to the same curve. The arms were bent to this jig using a tool called a bending fork.





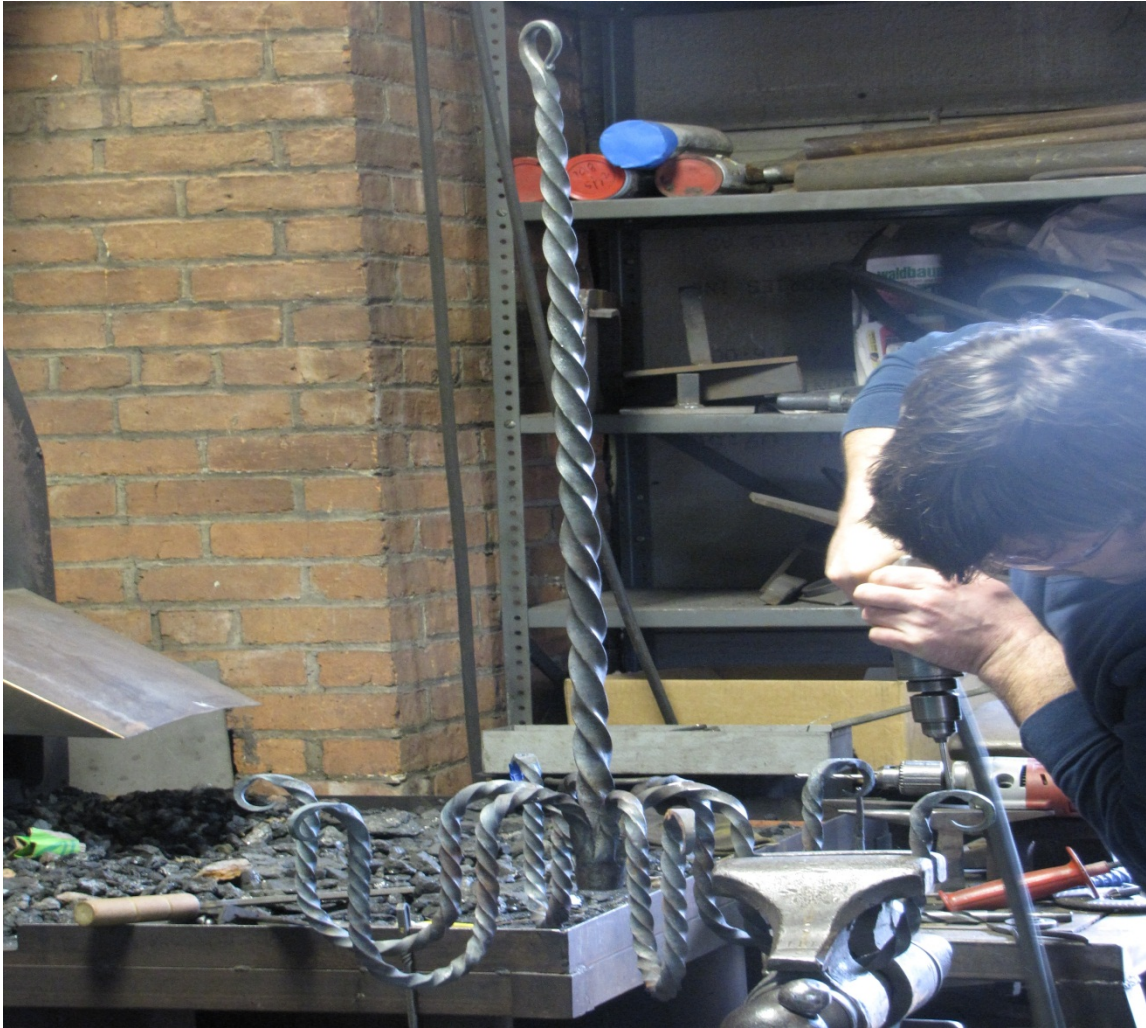
Handling hot, large objects requires much focus on the part of the smith. One has to work fast before the iron cools.



At this point, the chandelier was too large to fit into the forge. An Oxyacetylene torch was used to spot heat the arms and make small adjustments so that everything was even.



A second jig was used to ensure that all of the candle cup arms were even and equally spaced. Here again, a torch was used to make small adjustments.



Each arm was drilled so that the candle cups could be riveted into place.



Here is a shot of 3 of the finished chandeliers. They were blackened by hand using a chemical patina and graphite. They were then sealed using a conservation grade clear lacquer.



The chandelier was turned over to ensure that every surface had a proper patina and was sealed thoroughly to prevent rust.



This is a close-up shot of a finished chandelier before it received its patina and coat of lacquer. Here you can see the texture and color of the raw wrought iron.



This is an additional close-up shot of the unfinished chandelier.





This is a photograph of the finished chandelier. You will note that it is virtually indistinguishable from the original. Not all projects require this level of detail but we aim to please our clients and provide them with the services they require.