



HABA Meeting June 17, 2017

Forging Wrought Iron

from

The Tall Ship Elissa

at

Texas Seaport Museum

2100 Harborside Dr

Galveston, TX 77550

The Elissa was built in Aberdeen, Scotland and launched on October 27, 1877. Her iron hull was built with sheet iron produced by the Low Moor Ironworks located in Low Moor about 3 miles (4.8 km) south of Bradford in Yorkshire, England. For more information go to this [Wikipedia page on the Low Moor Ironworks](#). After several owners and multiple modifications, The Elissa eventually ended up as a restored sailing ship moored at the Texas Seaport Museum in Galveston, TX. For more information go to this [Wikipedia page on Elissa](#).



In July 2011, the U.S. Coast Guard declared Elissa to be "not seaworthy" due to corrosion of the iron hull. This was shortly after hurricane Ike and it has been theorized that stray electrical line in the water may have caused a rapid decay of part of the hull due to electrolysis. The Galveston Historical Foundation and the museum raised \$3 million to replace the hull and 22,000 board feet of Douglas fir decking. In the restoration process, the original iron hull material was retained and is currently in storage.

Much of this hull material is from the original Low Moor wrought iron when the ship was built. To the modern blacksmith, the words "wrought iron" are magic.

Today, blacksmiths work with mild steel which has carbon added to it to provide durability and strength. While this is a good thing, it causes changes in how blacksmithing is done as compared to traditional techniques that were used for centuries before the introduction of steel.

Wrought iron has very small amounts of carbon which makes working with it different in several ways. It is much easier to forge weld, allowing in many cases



dispensing with the use of flux. You also need to work it at a higher heat that you would use with steel. This is due to its fibrous makeup which will crack easily when worked at a lower heat. This higher heat is where steel would normally start sparkling as the carbon in it started to burn up. More information on the manufacture and makeup of the hull material can be found in a slide show put together by American Bureau of Shipping - [Elissa 1877-Low Moor Iron](#).

For the June 2017 meeting, HABA is partnering with the Texas Seaport Museum to present a demonstration of working with some of the wrought iron from the replaced Elissa hull material. HABA members will also be allowed an opportunity to work with it hands on during the meeting.

The meeting will start with a brief discussion of the wrought iron and its history and then move into a demonstration of working with it. After a question and answer session, members will be allowed to work with small pieces of the iron.

If you intend to work with the metal, bring your favorite hammer and tongs. Wear long pants and closed-toed shoes. Safety glasses are required for all participants and observers. Since there will be forge welding occurring, spectators will need to be prepared for sparks flying or for moving a further distance away.

Meeting Access:

The Texas Seaport Museum has supplied HABA with 20 wrist bands that will provide free access to the pier and to tour the museum and ship. We will provide these to the first 20 members upon arrival. Anyone after that will need to pay the regular access fees:

- Adult [Age 19 yrs and up]: \$12
- Youth [Age 6 through 18]: \$9
- Child [Age 5 and under]: FREE

Parking is available in lots at the pier and there will be fees to be paid for that. However, parking fees can be compensated by Fisherman's Wharf if you eat lunch there. They are right next door. You can also find other areas within walking distance that have free parking or lower fees.

Schedule: Saturday, June 17, 2017:

- 9:00: Discussion and demonstrations
- 10:30: Member forging
- 12:00: Lunch at your option
- 1:00: Member forging continue
- 3:00: Close of meeting

**Where:**

At Texas Seaport Museum
2100 Harborside Drive
Galveston, TX 77550

Google map link.

<https://www.google.com/maps/place/2100+Harborside+Dr,+Galveston,+TX+77550/@29.3092804,-94.7950577,17z/data=!3m1!4b1!4m5!3m4!1s0x863f9e14d3ef2979:0xa623471036725c33!8m2!3d29.3092804!4d-94.792869>

What to Bring

Safety glasses are a *requirement!* Hearing protection is recommended.

Plan to bring a lunch or eat at restaurants nearby.

Bring a chair to sit in.

Sunscreen.

You do not have to be a member to attend our meetings. Bring a Guest! Minors are welcome, but must be accompanied by a responsible adult.