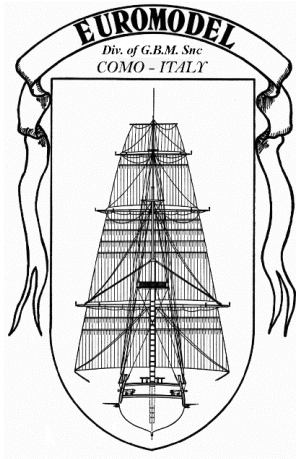


TRANSLATION LINKS

1. type into your browser ... **english+italian+glossary+nautical terms**
2. utilise the translation dictionary 'Nautical Terms & Expressions' from Euromodel website



An *interpretive* review of the **Friedrich Wilhelm zu Pferde**

17th. Century German Frigate

Launched 1684

Scale 1:48

Checked the
*Essential Resource
Information File ?*

07.SHIP'S BOATS

January 2023

My *interpretive* review is based on the supplied drawings, the kit material – and an amount of extra material.

This work only illustrates how this ship might be built. The level of complexity chosen is up to the individual

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*This is **NOT** an instructional manual but illustrates my own interpretation based on the drawings and the supplied kit.*

- Additional material used was dictated by my own personal choices.
- Greater simplification would be achieved by using the material as it is supplied.

Reference Texts

The Masting and Rigging of English Ships of War 1625 – 1860 by James Lee (1984).

The Construction and Fitting of the English Man of War 1650-1850 by Peter Goodwin (1984)

Historic Ship Models by Wolfram zu Mondfeld (1989).

[To navigate through the contents – use 'control + click']

Content

Chapter 1: SHIP'S BOATS.....	5
Hull Modification – a personal choice	7
Plastic Resin vs Timber.....	7
Longitudinal Profile	7
Internal Profile	8
Placement	9
Weathering	9
Boat Terminology	10
Interior Fittings	10
Risings.....	13
Cutter Tholepins/ Tholess.....	15
Exterior Fittings	16

Illustrations

[The figures below are not hyperlinked]

Figure 1: Boat Crutch.....	6
Figure 2: Ship's Boats	6
Figure 3: No Boats on the Ship.....	6
Figure 4: Boats Included on the Ship.....	6
Figure 5: Cutting & Sanding Tools.....	7
Figure 6: Longitudinal Profiles	7
Figure 7: Concave Inner Surface Part- Finished.....	8
Figure 8: Stern Shaping.....	8
Figure 9: Cutter Boat Suspended	9
Figure 10: Paint Selection for Dry Brushing	9
Figure 11: Boat Components	10
Figure 12: Immersion in Ammonia Soln.	10
Figure 13: Rib Shaping	10
Figure 14: Ribs in Position with Keel.....	11
Figure 15: Barge Bottom Boards and Keel.....	11
Figure 16: Cutter Bottom Boards and Keel	11
Figure 17: Stem Post Extensions	12
Figure 18: Cutter Transom.....	12
Figure 19: Risers	13
Figure 20: Thwarts & Sheets Installed in Barge	13
Figure 21: Thwarts & Sheets Installed in Cutter.....	14
Figure 22: Cutter and Barge Crutches.....	14
Figure 23: Cutter Thwart Knees.....	14
Figure 24: Shaping the Barge Rowlocks.....	15
Figure 25: Barge Rowlocks in Position	15
Figure 26: Oar Lashed to a Tholepin	15
Figure 27: Tholepins Inserted	15
Figure 28: Barge Stern Post	16
Figure 29: Cutter Stern Post.....	16
Figure 30: Barge Tiller Arm	16
Figure 31: Cutter Tiller Arm.....	16

Chapter 1: SHIP'S BOATS

An example of the ship's boats provided by a builder. In this case, the longitudinal profile has been altered in the central section, fittings added and the white resin hull coloured with a wood stain.

In no way should this be taken as the recommended choice for constructing these boats but the photo is provided as an example of how the boats *could* be created.





Figure 1: Boat Crutch

Two ship's boats are supplied - 1 x *150 mm* & 1 x *110 mm*.

Whatever approach is made by the builder (see discussion below), the supporting boat crutches *for both boats* should be constructed. Mounted on the main deck gratings, the boat crutches were a pair of wooden supports on which the ship's boat (barge) was secured. The cutter was secured inside the barge.

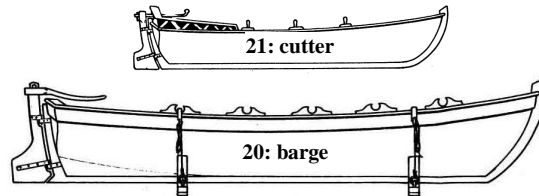


Figure 2: Ship's Boats

There are a number of rational approaches that can be adopted in dealing with the ship's boats.

Alternative 1:

Most models are built with part of the gun barrels projecting out past the hull profile suggesting a state of readiness for battle. If this is the case, then to clear the main deck for battle, the ship's boats were removed and towed behind the ship. *The boats then are perhaps not built.*



Figure 3: No Boats on the Ship



Figure 4: Boats Included on the Ship

Alternative 2:

If the boats supplied in the kit are to be included, then they can be suitably *painted as they are and eventually installed*. Euromodel supplies simple boathulls which will save much time and far less patience !

Alternative 3a:

Install interior fittings in supplied boat.

Alternative 3b:

Modify the longitudinal and interior profile and install all interior fittings.

Alternative 4:

The supplied boats are discarded and new ones *built from scratch*.

After some deliberation, 'Alternative 3b' was chosen.

Hull Modification – a personal choice

Plastic Resin vs Timber

The plastic resin is incredibly easy to work with and equipped with a Dremel and a number of differently-shaped cutting and sanding tools, the standard shape was altered to conform quite closely to the drawings supplied.



Figure 5: Cutting & Sanding Tools

The white appearance was readily changed to a timber weathered finish with a combination of wet and dry brushing coats.

*The following text is a detailed look at the cutter & barge and contains comments that **many builders**, in order to keep things simple, **will choose to ignore**.*

Longitudinal Profile

- The drawings show the gunwale on both boats as having a *curved longitudinal profile* (Fig. 6). In this build, the gunwales were shaped – curved slightly downwards from stem to stern. Note also that the stern is lower than the stem (broken blue line).

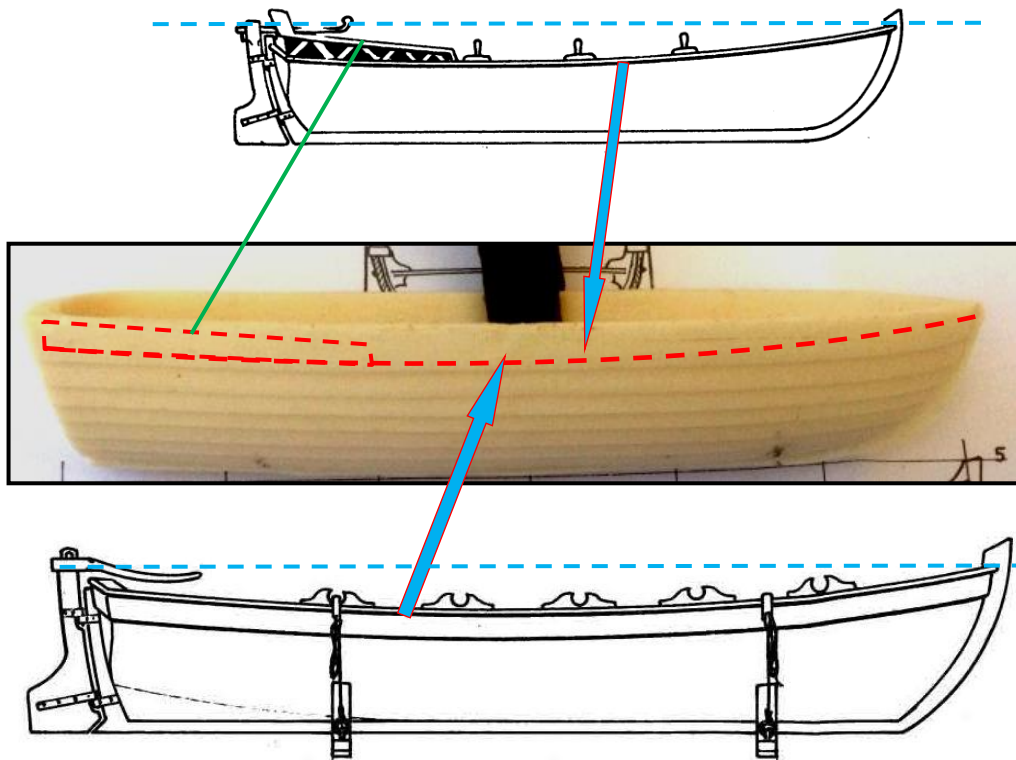


Figure 6: Longitudinal Profiles

Internal Profile

- The flat inside bottom was changed into a *concave surface matching the outside*. (Fig. 7). A Dremel cutting bit with a rounded shape made this task simple and approx. 5 mm. was cut out from the bottom. The guide to cutting down to a suitable depth involved holding the boat up to a strong light and observing a uniform translucent colour (to begin with, thick bottom was totally opaque to light).

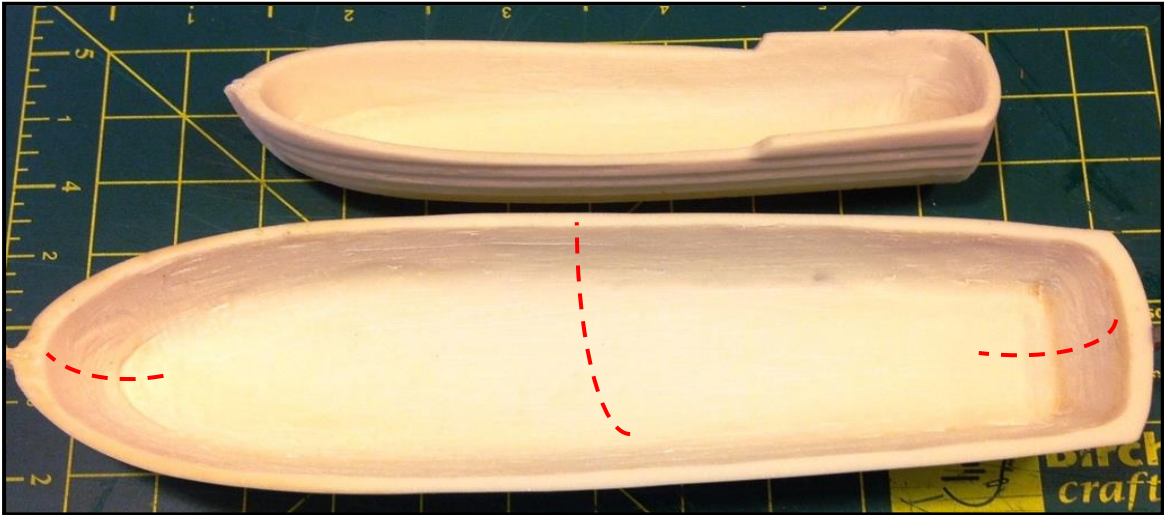


Figure 7: Concave Inner Surface Part- Finished

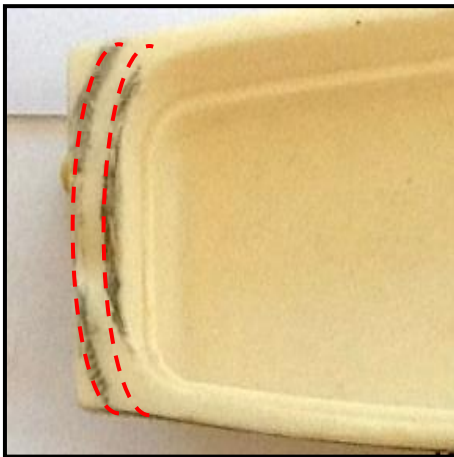


Figure 8: Stern Shaping

The stern area was also adjusted as indicated in Fig. 8.

The side and stern interior 'ledges' were removed as was the excess interior material at the stern and bow

Having modified the hulls, they then needed to be fitted out with the stern post as well as ribs, bottom boards, risers, thwarts, rudder, etc., etc. *How much detail and what proportions* are used is very much up to the individual.

Placement

If the boats are shown on the ship, then they could be both placed together as indicated in the drawings or perhaps the smaller (cutter) boat could be in a position where it is being used and suspended above the barge boat.



Figure 9: Cutter Boat Suspended

Weathering

The approach was to use a series of different paint mixtures resulting in a weathered appearance.

The **first step** was to add a base *wet brush layer* of a dark brown paint called 'Dryad Bark' (refer below).



Figure 10: Paint Selection for Dry Brushing

The **second step** was to apply paints with a 'dry-brush' technique.

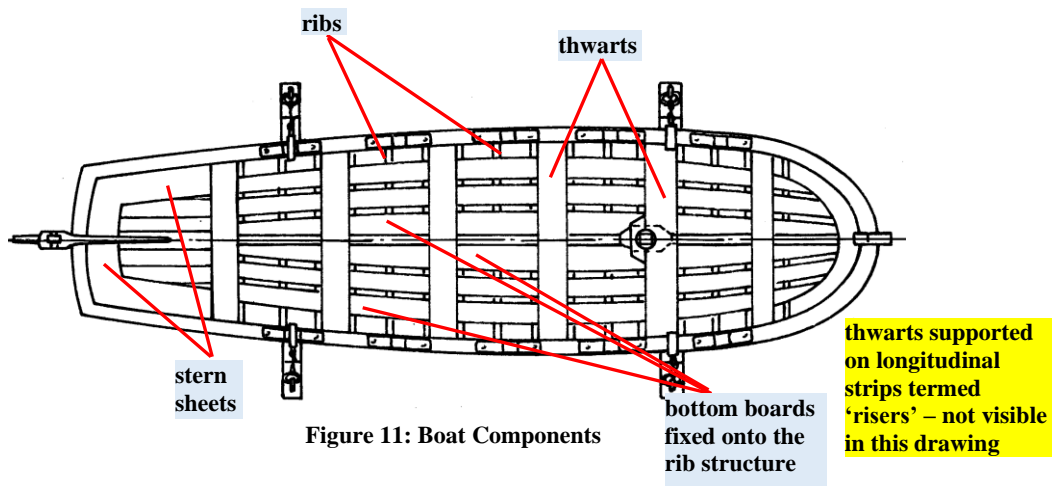
[The paints used were a brand called 'Citadel' from Games Workshop that seem to have outlets in many countries. Model Ship World Forum contains a number of very excellent & specific references.]

Layer Sequence:

- 1.75% *Dryad Bark* & 25% *Skrag Brown*
- 2.50% *Dryad Bark* & 50% *Skrag Brown*
- 3.*Dawnstone*

Dry brushing involves a specific brush being lightly filled with the paint applied and then stroking that brush over paper until all the paint appears to be used. The brush is then lightly applied to the base coat until an amount of colouration can just be perceived. That is the point when the brushing on of that new 'layer' is stopped. If multiple brush coat 'layers' are used, then it becomes a mixture of colours rather than just a multi-layered application of paint.

Boat Terminology



Interior Fittings

Ribs

The drawings indicate at least sixteen frames to be approx. **1.5 mm.** wide and spaced approx. **5 mm.** apart. The pieces (from **1.0 x 6.0 mm.** planking) were cut to a length of approx. **63 mm** and a width of **2.0 mm.** allowing spacing along the keel of approx. **7.0 mm.** apart (9 ribs) in the cutter and **9 mm.** (11 ribs) in the barge. This then was a lesser number of ribs in both boats. With more care and time, this number could have been increased.

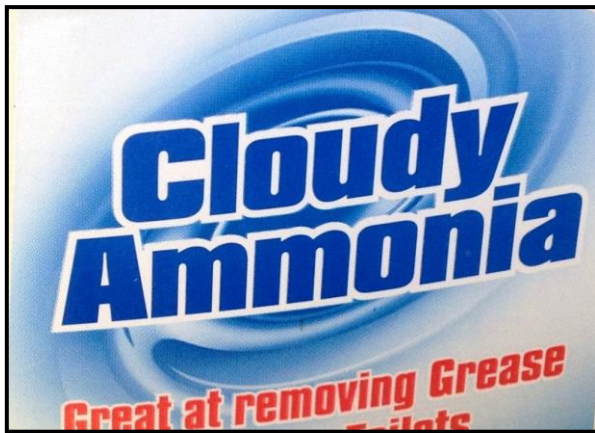


Figure 12: Immersion in Ammonia Soln.

To fit ribs against the curved boat interior without breaking, the strips were soaked in dilute ammonia solution – available from supermarkets as a cleaning agent called 'cloudy ammonia'.



Figure 13: Rib Shaping

The timber strips were removed after 3 - 4 hours of soaking, wiped with a dry cloth and then held in position in a block grouping (Fig. 13) allowing at least 12 hours to dry.

Even though the athwartships width varied across the boat along the length, the dry ribs were easily fitted into position.

A keel (**2 x 2 mm.**) was added over the ribs, as

well as at each end to simulate part of the stem and stern posts. The stem post section particularly had to be thinned down greatly at the top (refer to a following commentary on extending the stem post).

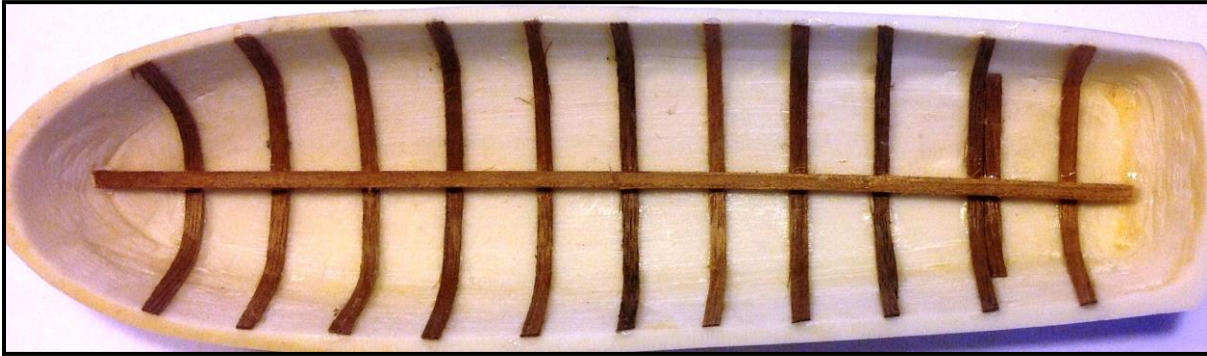


Figure 14: Ribs in Position with Keel

Rib Spacings : Cutter – 10 mm/ Dinghy – 8 mm.

Bottom Boards

From the scrap stock, timber *0.9 x 3 mm*. was utilised. Fig. 15 shows added stern and stem post sections. The placement of boards bears little resemblance to the drawing but that was principally due to the difference in the athwartship measurements between the two.

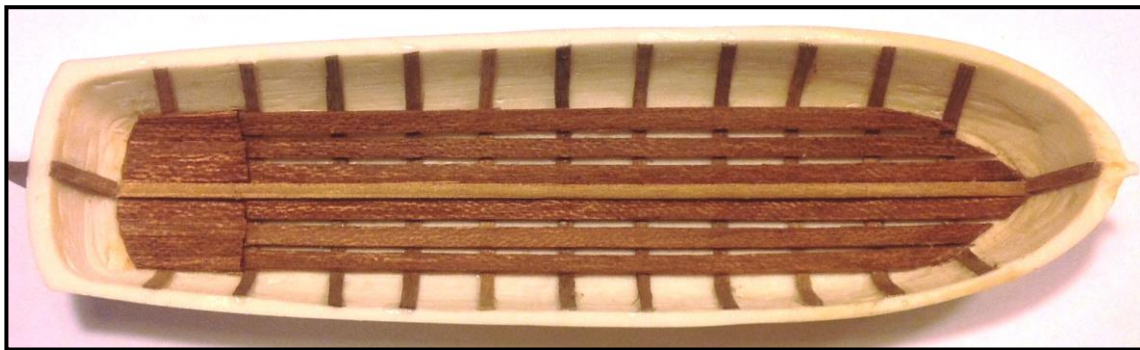


Figure 15: Barge Bottom Boards and Keel



Figure 16: Cutter Bottom Boards and Keel

Stem Post Extension

On the supplied boats, the stem post was virtually non-existent. So the bow was levelled with the gunwales and a small nail (broken red line) inserted as a reinforcing pin to support a small timber piece (blue) used to extend the stem post upwards.

The aim was to make the forward edge continuous with the moulded post and aft edge continuous with the added post section (yellow). The result was less than perfect and would have been far better if more of the plastic resin was removed from inside the bow when the initial carving was being done.

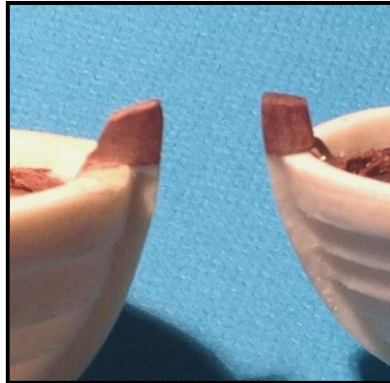
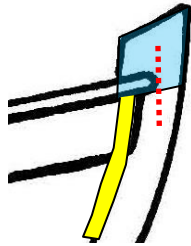


Figure 17: Stem Post Extensions

Cutter Transom

The cutter has a small transom (blue) through which the tiller arm passes. This was carved from a solid block of wood.

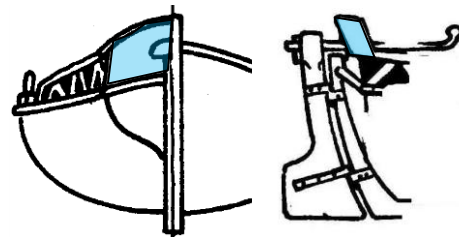


Figure 18: Cutter Transom

Risings

Thwarts (seats) were supported by the risings – a narrow strip of timber underneath running the length of the boat. In this build the thwarts were fixed but they were often removable allowing for better storage of masts, oars, sails, water barrels and so on. From scrap material, the risings measured $0.9 \times 1.5 \text{ mm}$.



Figure 19: Risers

Produced from scrap timber, the following dimensions *could* serve as a guide ...

bottom boards – $0.75 \times 3.0 \text{ mm}$.

keel – $2.0 \times 2.0 \text{ mm}$.

risers – $1.5 \times 0.75 \text{ mm}$.

ribs – $1.5 \times 0.75 \text{ mm}$.



Figure 20: Thwarts & Sheets Installed in Barge



Figure 21: Thwarts & Sheets Installed in Cutter



Figure 22: Cutter and Barge Crutches



Figure 23: Cutter Thwart Knees

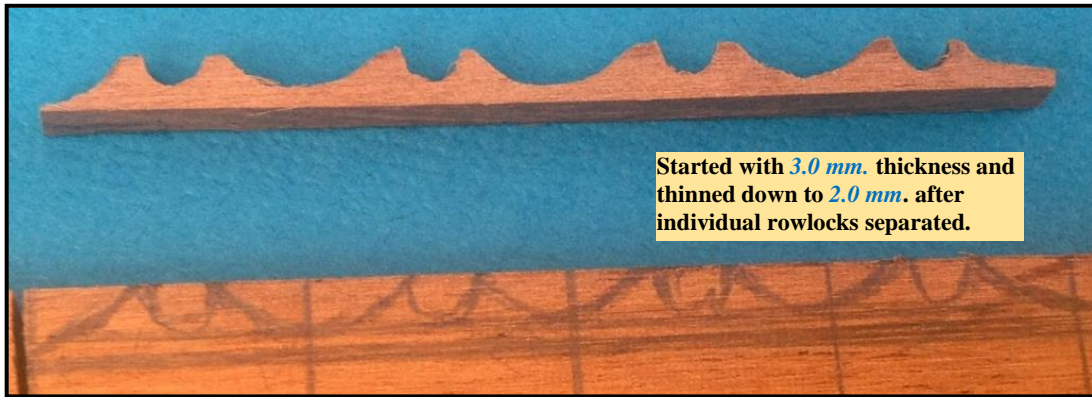


Figure 24: Shaping the Barge Rowlocks

The final shaping of the rowlocks occurred after they were fixed in position on the gunwales.

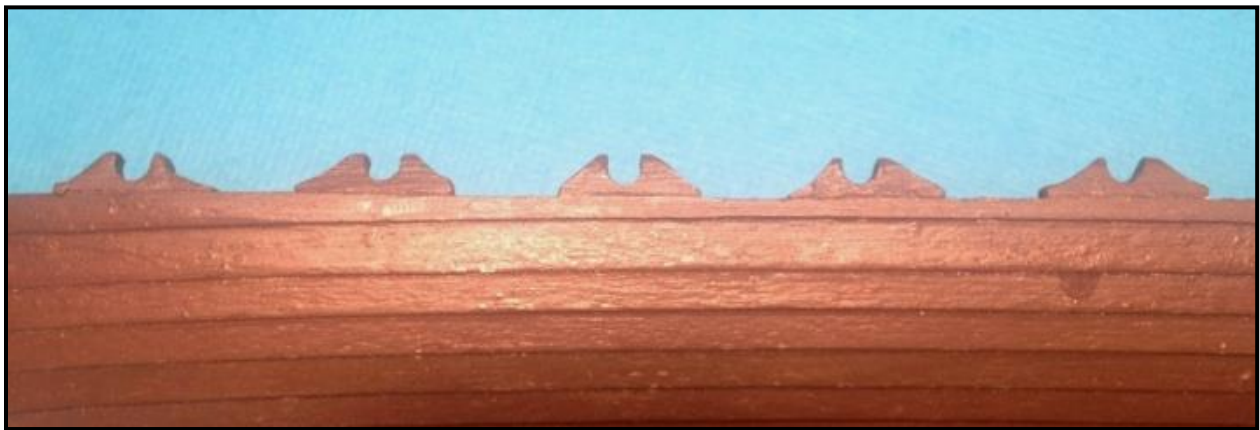


Figure 25: Barge Rowlocks in Position

Cutter Tholepins/ Tholes

These pins, either singly or in pairs were embedded into the gunwale to act as a fulcrum for the oar. Fig. 26 is from an actual boat.



Figure 27: Tholepins Inserted



Figure 26: Oar Lashed to a Tholepin

Exterior Fittings



Figure 28: Barge Stern Post



Figure 29: Cutter Stern Post

Tiller Arms and Rudders

The rudder blade sizes were determined more from the actual supplied boats rather than the drawings.

Cutter - arm passed *through* the rudder and not around it as in the larger barge rudder. A *1.0 mm*. brass rod was used to construct this arm.

Barge – arm was carved from a thick piece of timber; the sweep/ curvature was not achieved.



Figure 30: Barge Tiller Arm



Figure 31: Cutter Tiller Arm