

Weekly work updates from February 2004 through December 2004 on the restoration of the 1895 lumber schooner *C. A. Thayer*

May 15 – June 11, 2004

There was much discussion about the long longitudinal timbers - the sheer clamps and the waterway timbers. The clamps are perhaps the most important strength members in the hull. These are the interior wales running fore and aft, immediately under the deck beams. The Thayer's clamps are about 12" by 14" and the main pieces are unbroken single timbers 114 feet long. The clamps define the upper edge of the hull, tying the girder together with a longitudinal strength member well placed to resist bending of the structure.

One of the defining characteristics of the West Coast lumber schooners was the length of the timber available to put into them. The long, unbroken lengths of the longitudinal timbers and planking compensated for the schooner's inherent lack of longitudinal strength, with their relatively long, shallow hulls. The Thayer's clamps, keelsons, and keel are in lengths of 100 feet or better. Much of the bottom planking and thick ceiling planking is in lengths of 80 feet or more. By reducing the number of butts or scarfs in the longitudinal structure, the overall resistance of the hull to bending is much improved.

In the rebuild process, we are committed overall to making replacements using original materials and techniques. In most cases, this is proving quite feasible. The extreme lengths of the clamps, however, present a challenge. We would seem to have two basic options. We can try to find the longest possible lengths and piece them together with scarfs. Our preliminary conclusion is that if we can secure material about 70' in length and add one extra scarf in each run of clamps, this would be an acceptable compromise. Our feeling is that more scarfs, using shorter material, would not be acceptable. The problem is that over time, the fastenings in these joints will lose strength and have a very bad effect on structural integrity.

If we cannot secure material of acceptable length and quality, we will be forced to consider a laminated beam. We do not contemplate this lightly. The clamps are almost certainly the only members that we would consider doing as laminates, and this only because their strength and continuity are so vital to the structure. We would probably want to do each clamp as a single piece fore-and-aft, making for lengths of more than 140'. The preferred method would be to build the laminates in place, with an inner plank or about 2" in thickness, so that the laminated nature of the beam could not be seen. We will comment further as things develop.

The waterway timbers, we have decided, can be made up out of 41' timbers. This will make for two extra scarfs in the length, but strength here is somewhat less critical, and the joints will remain exposed, so that we can monitor their condition over the coming years. We definitely do not want to laminate these members.

Meanwhile, the framing goes ahead. The #5 futtocks, which form the bulwark stanchions, are being installed on the starboard side. The intermediate frames are going in on the port side. This work continues to look good.

The deck beams are beginning to come out. We have an agreed scheme for replacement of the beams and carlins to restore the original hatch arrangement. After much discussion, we have agreed on a deck camber of 3-1/2". There was quite a bit of variation in the camber as found, but we feel confident that we have determined the original design intent. The beams will be cut over the next weeks, but will only go back in after the clamps are reinstalled, a bit down the road.

We are working on the next round of task orders. This includes the stem post, the deadwood timbers, the keelsons, the final keel straightening and worm shoe, and the rest of the framing.

Your reporter is taking a week off to go sailing on the Park's new Chinese shrimp junk replica. Will figure to catch up when we get back.