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

December 27 – 30, 2004

The job site is relatively quiet this week. A number of the guys are off. The concrete floor is puddled from a broken downspout.

But work goes ahead. The first of the eight-inch thick ceiling planks are in on the starboard side and additional planks are being prepared out on the floor. Another gang is working on fairing and dubbing inside the hull to accept the new planking. We will look for a flurry of ceiling installation early in the new year.

The two starboard ceiling planks went in during the week of the 13th. These were the midship planks of the lower strakes - # 7 and #8. The #7 plank is fully 80 feet in length. There is a scarf joint formed at each end of each plank, ready to join up to the next plank both fore and aft. The planks of the lower five strakes thick ceiling, through the turn of the bilge, are scarf jointed rather than butted and are edge fastened with drifts. These strakes form a very rigid structure, helping the hull to resist hogging forces.

The initial installation of ceiling planks was to some extent experimental. No one was quite sure to what extent these thick planks could be "edge-set" or bent along their flat axis. In normal ship or boat planking, little or no edge-set is designed into the planking layout. If a given plank requires any shape or curve along its flat axis, that shape is sawn into it, beginning with a plank somewhat wider than the finished strake width. This makes intuitive sense. A strip of paper, or a relatively thin wooden plank, can be bent along its length, but not along its width.

The thick ceiling plank runs found in the *Thayer* did show curve along their lengths, and this curve was not obviously sawn into the planks. We did not see the grain running out over the plank edges. This seemed to indicate that the planks must have been edge-set. Were the original planks steamed to make them so pliant, or were they perhaps so green that they bent more easily?

It turned out that it was possible to bend quite a bit of edge-set into these long 8-inch planks. The first 80-foot plank laid down was bent by about 6 inches. It seems to be true that a plank that thick begins to act more like a timber than a plank and will take a fair amount of bend. It takes a good amount of persuasion with chain falls and clamps but it is possible.

The fastening of the ceiling planks follows what we have deduced to be the original method and sequence. A single headed drift is initially driven through the plank into each frame. This is a drift with a fairly wide head, in the shape of a flattened cone. The head is sunk about a quarter inch below the surface of the plank. This single fastening per frame will hold the planks until the whole of the ceiling is in place. The inner face can then be dubbed smooth and fair, eliminating the unevenness which will certainly arise, especially in the more radically curved stern sections. Three more drifts will then be driven into each frame, these being formed heads driven through clench rings, which remain proud

of the surface. The edge drifts are driven as the planking progresses, the formed heads being driven flush with the upper edge of the plank. The edge drifts are normally spaced to run between every other frame space, staggering one frame space in each successive strake. At least three edge drifts will fasten each of the scarf joints within the strakes.

There has been a fair amount of head-scratching and discussion about the role of the wedges in the ceiling process. We note that a line of wedges was driven into the ceiling plank seams through most of the length of the hull in most, but not all, of the seams. Were these wedges part of the original construction? Or were they perhaps installed later as the planks shrunk and dried early in her working career? If they were original construction, this would seem to indicate that it was either impossible or impractical to achieve perfectly tight seams in the ceiling process. Our thinking on this issue is to see how it goes. We have given the builder leave to use wedges as required to maintain the desired run of the planking and to keep the ceiling tight overall. We will see how it works out.

The stem post, apron, and forward deadwood are entirely out. Tim, the template expert, is working on the difficult task of patterning out the new pieces. He is working from the old pieces, but due to the deterioration of the upper portion of the old original stem, and the repairs made over the years, there is a fair amount of reconstruction to be deduced. This is a tricky job, which is aging poor Tim rapidly. We have confidence that he will work through it and that the result will be so close to the original that Hans Bendixsen wouldn't be able to tell the difference.

Aft, the bottoms of the rudder trunk timbers are now exposed as the last bit of after framing has been removed. These timbers will need to be replaced, as the lower ends are seriously deteriorated. The upper portion of the stern post is also rotten, at least three feet down from the top, and a new piece will have to be scarfed in. We toyed with the idea of changing the arrangement of the joints in this structure, by scarfing a longer length of forward rudder trunk timber directly to the shortened stub of the old stern post. The though was to avoid introducing an additional joint – the new scarf in the stern post – into what was already a somewhat weak structure. Bill Elliot felt that this change would add to the difficult and complexity of the new installation, and challenged us on theoretical grounds, arguing that this would be an unwarranted piece of re-engineering of the original vessel. We finally had to agree, chanting to ourselves one of the guiding mantras of this odd business; "Resist any impulse to redesign your grandfather's work."