

The Unique Lantern at Bailey's Harbor

By *Terry Pepper*

I am sure that all of us know that along with those at Waugoshance and Selkirk, the lantern of the old Bailey's Harbor light is one of only three remaining "birdcage style" lanterns on the Great Lakes. I am also sure that each one of us had the same thought when first we set eyes on this lantern – why is it so darned tall and narrow? After pondering this question for a number of years, I believe I may have discovered the surprising reason for unique lantern.

A little background

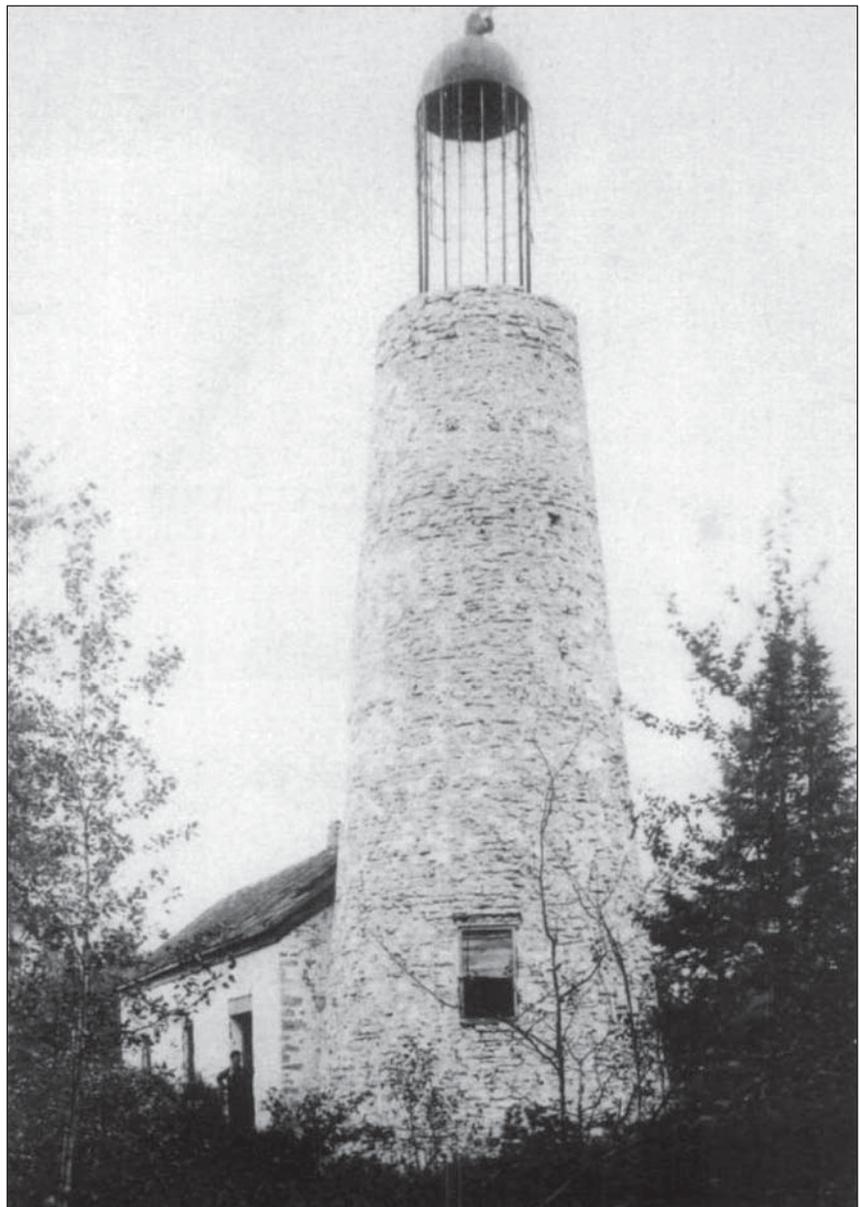
Born in Owasco, New York in 1804, Alanson Sweet moved to Milwaukee in 1835 where he initially claimed a section of land and took up farming. Within ten years, Sweet had gained prominence in the area's grain trade, and operated a construction business which was responsible for building much of the growing city of Milwaukee and its wall of grain elevators along the banks of the Kinnikinnick River. Seizing the opportunity represented by the area's meteoric growth, by the late 1840's Sweet had also assembled a fleet of twelve vessels with which he was shipping construction stone throughout the western lakes. Sweet hired veteran lake Captain Justice Bailey to oversee his maritime interests, and 1848 found Bailey himself in a gut-buster of a late fall storm as he piloted one of Sweet's fleet south along the western shore of Lake Michigan. Seeking respite from the maelstrom, Bailey ran for an unnamed sheltered bay approximately fifteen miles south of Death's Door. Impressed by the natural refuge represented by the bay, Bailey lowered the vessel's dinghy after the storm abated and set out to conduct a brief exploration of the area. Excited by the immense commercial potential he foresaw in the area, Bailey took samples of local woods and stone back to Milwaukee to show to Sweet. Evidently, sweet shared Bailey's vision of the area, as within two years Sweet had established a mill, quarry and

dock at what was becoming known as "Bailey's Harbor," and a small town was growing around the bay to serve workers moving into the area.

The call for a light

With an increasing number of vessels tying up at the docks, maritime interests began to call for the establishment of a light at the mouth of the harbor to serve both as a guide into the harbor and as

a coast light for vessels making their way up and down the western shore. Adding support to these requests, the Wisconsin Senate and House passed a joint resolution on January 29th, 1851 in which they beseeched congress to erect a light at Bailey's Harbor, stating that "for the safety and convenience of vessels navigating the north-western Lakes, a light-house is much needed at that point." Evidently Congress was in

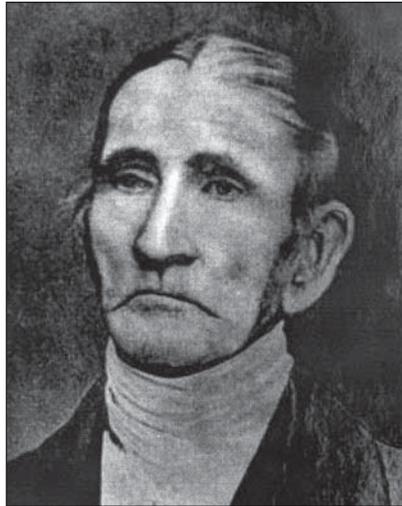


*The 1852 Bailey's Harbor lighthouse as it appeared around the beginning of the 20th century
The Beacon, Fall 2010*

accordance with the need for the new aid, as a \$5,000.00 appropriation was approved for its construction after only two months later on March 3, 1851.

At this time, responsibility for the nation's aids to navigation was one of a number of responsibilities assigned to a gentleman by the name of Stephen Pleasonton. As the Fifth Auditor of the Treasury, Pleasonton was a consummate "bean counter" with absolutely no maritime or engineering expertise. Without a viable and qualified organizational structure, Pleasonton had no alternative but to delegate the responsibility for administration of the lighthouse districts themselves to a single district superintendent, who in turn delegated the responsibility for lighthouses at the local level to the nearest Collector of Customs.

Responsibility for lighthouses was not exactly a welcome thing for the Customs Collectors, as the position served as an addition to their regular responsibilities, and something for which they received no additional compensation. As a result, graft was fairly common, with many Customs Collectors skimming from construction budgets and taking kickbacks for awarding contracts and appointing keepers. As a direct result of this system-wide lack of



Fifth Auditor Stephen Pleasonton

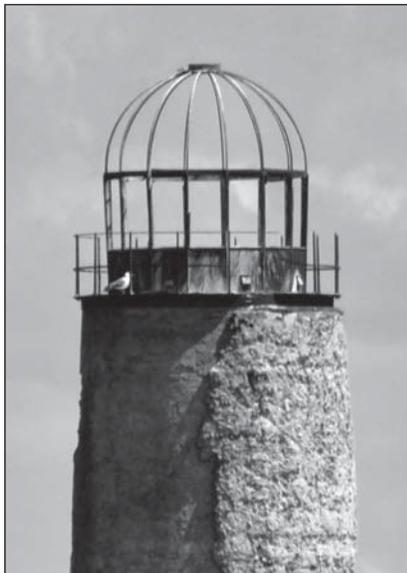
experience and cohesion, virtually all of the lighthouses established on the Great Lakes during the Pleasonton administration were built to virtually the same set of specifications, and typified by poor placement, inferior design, cheap materials and shoddy construction methods.

In fact, at the dawn of the 1850's there was such growing dissatisfaction with Pleasonton's administration throughout the maritime community, that congress would create a committee to investigate the situation. As a result of this committee's findings, responsibility for aids to navigation would be ripped

from Pleasonton, and transferred to a new purpose-created institution known as the Lighthouse Board by a federal act of August 31, 1852. As such, the new light at Bailey's Harbor light would be one of the final few lights on the Great Lakes built under Pleasonton's wing.

At the time of the appropriation, the Superintendent of Lights for the entire Great Lakes area was Henry B. Miller, who based his operations out of Buffalo New York, some 750 miles from Bailey's Harbor. Without the aid of any engineering staff, construction plans were not drawn-up for each new lighthouse at this time, but, instead a set of standard specifications for a typical Great Lakes lighthouse was dusted-off and reused with minor site-specific modifications for each new light. These written specifications gave a description as to how the lighthouse should be built, its overall dimensions, the sizes of certain key components and a description of the type of materials to be used in its construction.

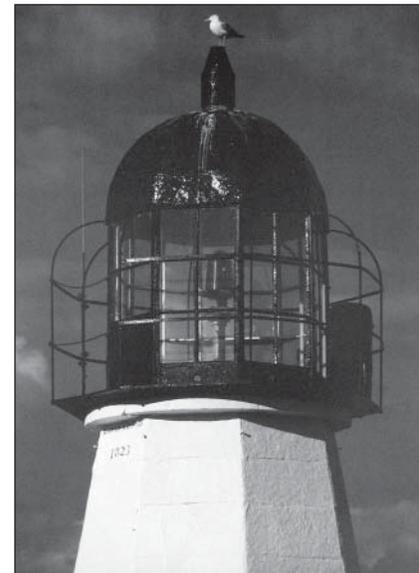
In accordance with standard government "least bid" policy, these specifications were then published in newspapers in a number of cities throughout the area, with an invitation to area contractors to submit bids to build the lighthouse in accordance with the specifications.



1851 birdcage lantern at Waugoshance The Beacon, Fall 2010



1838 birdcage lantern at Selkirk



1851 birdcage lantern at Prudence Island

Library of Congress

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US Coast Guard Historian's Office



Wisconsin State Historical Society

Alanson Sweet - politician, businessman and Great Lakes lighthouse builder

Among other newspapers, the invitation to submit construction proposals for the Bailey’s Harbor light was published on the front page of the April 5, 1852 edition of the Milwaukee Daily Sentinel with the request that all proposals be submitted to Miller no later than April 12th - a surprisingly short lead time.

While the names of all contractors who submitted proposals has yet to be identified, it is perhaps less than serendipitous that according to a brief article in the April 12th edition of the Milwaukee Daily Sentinel “the contract for building the Light House at Bailey’s Harbor, on this Lake, has been given

to our fellow citizen, Alanson Sweet Esq.” With contract in hand, Sweet’s crew evidently worked quickly, as a follow-up article just four months later on August 19th that “our fellow citizen Alanson Sweet Esq., has nearly completed the lighthouse at Bailey’s Harbor, and that it will be ready for use in a week or two.” So although we have yet to determine the exact date on which the light was exhibited for the first time, it is certain that it was in the latter half of 1852.

Back to that strange lantern

In Miller’s specifications for the lighthouse, in accordance with which Sweet was contractually bound to build the structure, Miller described the specifics of the lantern as follows:

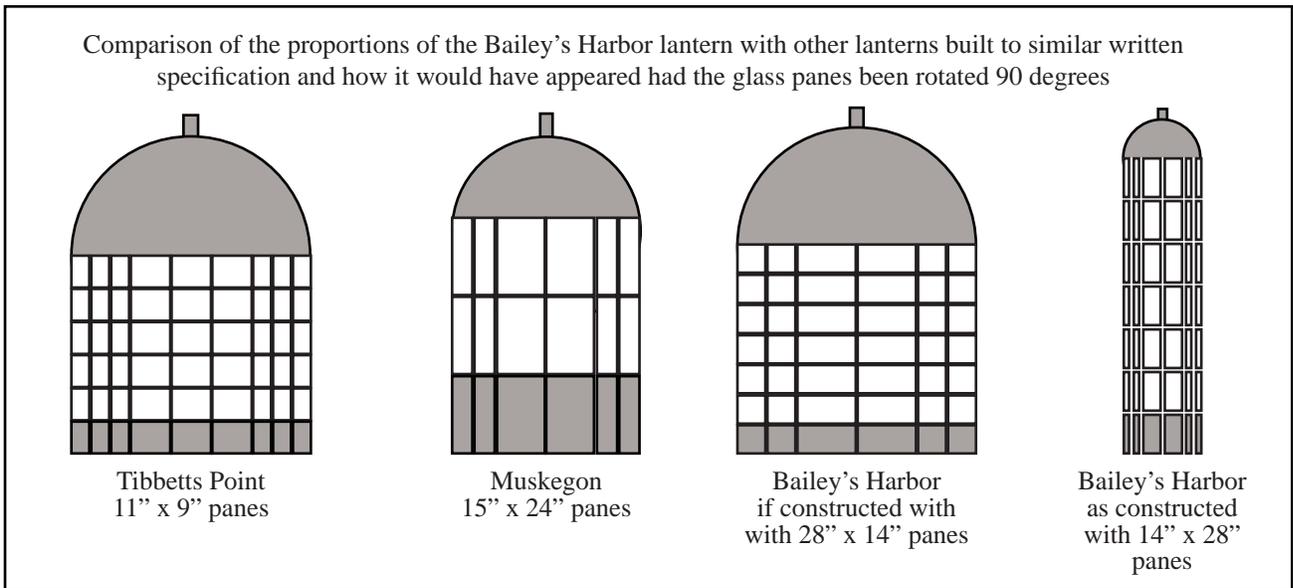
“On top of the tower to be an iron lantern of octagon form, posts to be two inches square, to run down into the brick work four feet and secured with anchors, the height and diameter of the lantern to be sufficient to admit on each octagon an iron sash to contain 14 lights of 14 by 28 inch, to be glazed with the best French plate glass, except the lower tier which is to be filled in with copper.”

It had been a standard practice since the earliest days of glass manufacture, to specify the size of piece of glass in a

specific order - width first, and height second. From this, we see that Miller called out that each of the 8 sides of the lantern should be made up of fourteen individual panes of glass, each being 14” wide by 28” high. The additional specification that the LOWER tier be filled in with copper further indicates that there had to be at least two horizontal rows of glass panes on each lantern side. As such, there was but one viable way in which Sweet’s crew could construct the lantern while accurately conforming with the specifications, and that was to construct a lantern with two vertical columns of seven 14’ x 28” panes on each of the eight sides, with the tall and narrow lantern we see to this day being the end result.

In looking at the proportions of the other two surviving great Lakes birdcage lanterns at Waugoshance and Selkirk; the only other remaining birdcage lantern at Prudence Island in Rhode Island, and the specifications for the original birdcage lanterns built at Tibbett’s Point, Muskegon and Two Rivers, there is a definite commonality of proportion among them. In all cases, each of the lantern’s eight sides was approximately twice as high as it was wide.

There is no technical reason for a lantern of the proportions of that specified by



Miller, and these proportions were never repeated at any other location that I have been able to identify,

Thus, we can only assume that the Bailey's Harbor lantern must have been built in error.

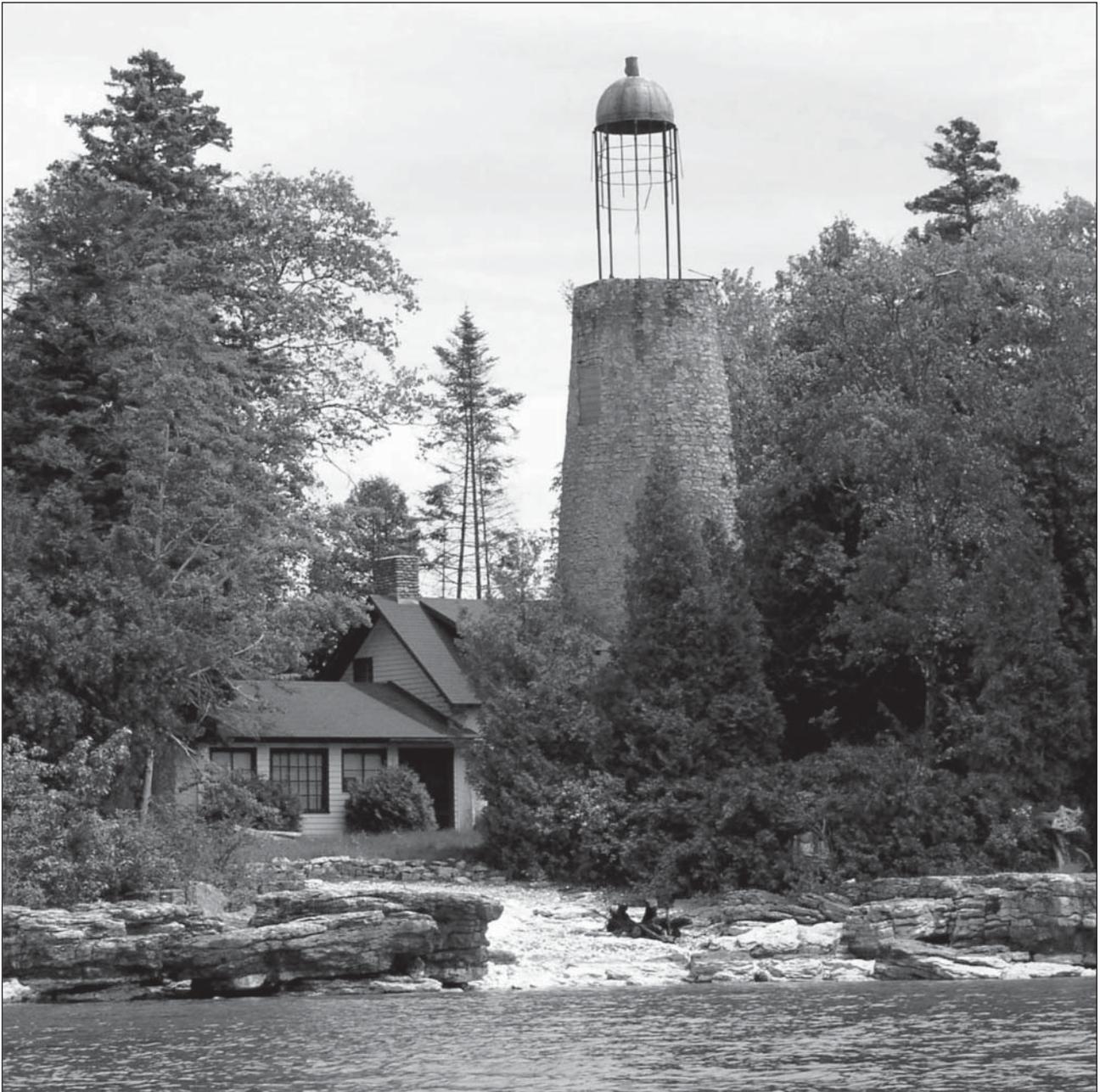
Since the lighthouse was accepted by Miller, or his designee after completion, and there is no documentary trail of Sweet being fined or forced to rebuild the lantern, I can only assume that the

error must have been on the government side of the agreement.

After considerable review of the facts, I propose that Superintendent Miller made an error in transcribing the specifications for the Bailey's Harbor lantern from the master specification copy in his office.

Specifically, I believe that Miller transposed the dimensions for the width and height of the lantern panes,

specifying that it be built of 14" by 28" panes instead of 28" by 14" panes. As you will see in the included comparison illustration, a lantern built with panes oriented to 28" wide by 14" high closely matches the "twice as wide as high" proportions of all the other birdcage lanterns, and is the only plausible explanation I can find for the distorted proportions of Bailey's Harbor lantern. Oops?



Jon Paul Van Harpen

The old Bailey's Harbor lighthouse as it appears today. It is unfortunate that its unique lantern is not receiving any preservation
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