

Lighting Vessels at Night

By George Worthylake



Recently, while doing some research in our Society's library, I came across a report from the secretary of the treasury dated December 15, 1846, titled, *The expediency of requiring vessels navigating along the coasts to carry lights.*

I was amazed to learn that there was a time as recent as the 19th century when vessels navigating at night were not required to display navigation lights. Today, of course, there is a comprehensive system of lighting a vessel at night, which not only shows which side of the vessel another mariner sees but the direction in which the other vessel is headed, as well as a whole series of rules for ferry boats, tugs with tows, boats fishing at night, pilot boats, etc.

But as late as the 1840s, the only rules or customs were that vessels at anchor at night display a fixed white light, that steamers on the western rivers maintain a fixed white light, and that, according to a recently passed law in New York, vessels navigating Lake Ontario or the Hudson River display a light at night.

The treasury secretary's report stated:

On 30th July, 1846, it was resolved by the Senate of the United States, "That the subject concerning the expediency of requiring vessels navigating Delaware Bay to carry lights in the night time, in order to avoid collision, be again referred to the Secretary of the Treasury, with instructions to inquire into the facts, and report on the expediency of making a more general provision in regard to vessels navigating along the coast of the United States..."

The secretary then sent inquires to the several collectors of customs requesting their opinion on the matter and to contact local ship masters, pilots, marine societies, and insurance companies for their opinions. The response was, as you might expect, varied.

Since independence our nation expanded rapidly. Although the West Coast was yet to be developed (the Gold Rush was three years away in 1846), the completion of the Erie Canal in 1825 greatly expanded population growth throughout the Midwest. More territory, more commerce, and a larger population

vastly increased transportation, and in that era transportation meant vessels. By the 1840s steam vessels were in the mix. Steam-powered vessels did not need to tack; they could run, more or less, from point A to B, often encountering sailing vessels on a tack and many times colliding with sailing ships, usually at night.

As I mentioned earlier, the options varied.

The skipper of the U.S. Revenue schooner *Alert* wrote:

Sir: I am of the opinion that a law compelling all vessels sailing along the coast to carry a light, would be injurious rather than beneficial to navigation.

I have no doubt that it might be useful in the river and inland passage, but on the coast it would be apt to mislead vessels by mistaking them for the light-houses.

I am, respectfully, your obedient servant John Whitcomb

Another ship's master wrote:

I will say that in my opinion vessels at anchor in the Delaware bay or river should, in all cases, carry a light; but vessels passing up or down, and meeting others underway, with lights flying, the difficulty distinguishing whether they were underway or at anchor would be so great that a light would be a disadvantage rather

than otherwise, and would be the cause of more accidents than they would prevent.

John Shackford

This inquiry by Congress appears to have originated from some party in the Delaware Bay or River area, perhaps Philadelphia, as most responses address that area.

In Portland, Maine, several captains signed a letter which stated in part:

Respecting the [consideration of a law requiring] vessels navigating the river Delaware and coasts of the United States to carry a light, we respectfully give you, as our opinion, that in navigating bays and rivers generally, much frequented by vessels, a light is necessary—in fact indispensable.

You are probably aware that it is now custom, and one, to which every prudent seaman readily complies with—to carry a light in all such places; yet on a coast studded with lights, like our own, though it might prevent collisions in some cases, it would confuse the mariner and render the navigation more difficult...



The Portsmouth, New Hampshire, collector of customs wrote in his letter:

Most of those [masters, merchants, etc] with whom I have conversed have expressed an opinion that it would be inexpedient for coasting or other vessels to be required by law to carry lights at sea, and in this opinion I concur.

The lengthiest letter was received from the collector of customs for New Bedford, Massachusetts. He wrote:

I have taken much pains to collect information from underwriters, masters and owners of vessels, and other practical men, on this important subject . . . At first blush it might appear altogether that every vessel, far and near, should carry a light for its own security, in common with that of others; but, on closer examination, serious objections present themselves to the mind. First and foremost, it is the opinion generally of nautical men with whom I have consulted, that on a coast so well provided such as ours the benefit would more than be counterbalanced by the danger by confounding the transient lights on vessels with the permanent lights on the coast. There is not probably, in the world, so extensive a coast as our own, from Maine to Texas, that is so well provided with lighthouses. The lights are so numerous and well kept, that one or more are constantly visible from every part of the coast. They constitute a feature of every chart, and are as familiar to navigators as household words . . . and are of infinite importance compared to any transient lights that could be devised by wit of man. Whatever tends to divert the minds of pilots from these known landmarks is dangerous in the extreme in most cases.

By the mid-1840s, complaints about our system of aids to navigation, and just how inferior our lighthouses were to those of Europe, were constant and loud. There was a congressional investigation of our system in the 1830s and another in the 1840s. The Blunt brothers, authors of the annually produced *Coast Pilot*, had been railing against the American system for years. A “coast so well provided” was a joke, and one might surmise that the New Bedford collector (and all port collectors) was politically tied to Stephen Pleasonton who was in charge of our lighthouses from 1820 to 1852 when he was “kicked upstairs.” Further, at that time the collectors of customs were in charge of the lighthouses in their area and received a commission of 2 ½ percent of the cost of supplying their lighthouses.

The collector continued his tome:

To avoid ledges and shoals, navigators are in the habit of taking their angles from light-houses afar off, and the least mistake to take of one for another is liable to cast them on the very rocks they seek to avoid . . . experienced navigators say that our light-houses are sufficient guides in all cases, and that if a proper watch is kept on board there is very little danger of collision...another objection

to legislating on the subject lies in the difficulty in carrying into execution any uniform system. Penalties would be necessary; and, after all, captains would carry lights or not as they deemed convenient, and it would be difficult to detect omissions.

The collector listed several other objections to the idea, including the subject of foreign vessels entering our waters. He finished his lengthy letter by saying that *if* such legislation were passed:

[The details of the law would] be of primary importance. The light itself should be very distinct in character from that of ordinary light-houses. In the first place its color might be red . . . distinguishable afar off from the permanent lights. Its shape might, also, might be uniform and characteristic, a star or cross.

Jos T. Adams, Collector

Although others also disliked the thought of navigation lights, many mariners and persons engaged in maritime matters thought such a law a good idea. Some thought that sailing vessels should have a white light on their bow sprit when running before the wind and a red light when on a tack. Another complained that it would be difficult to maintain a light during winter as the oil would congeal.

The collector at Buffalo stated:

Sir: I deem it of great importance that all vessels should be compelled to carry conspicuous lights, when navigating our western lakes [Great Lakes] and rivers by night, as tending much to the safety of life and property.

H. W. Rogers

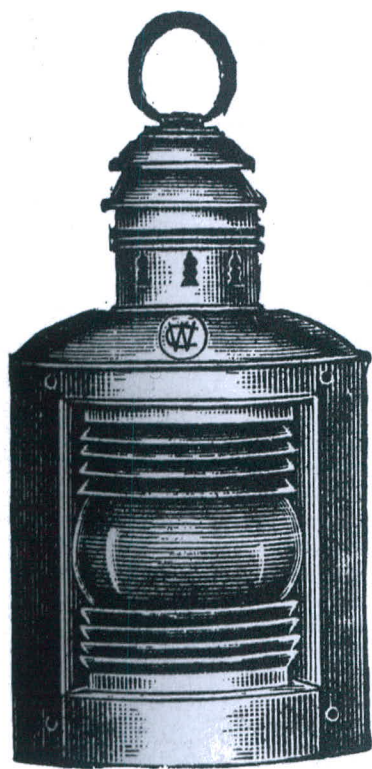
R.H. Heywood, president of a marine insurance company concurred:

A law making it imperative on each steamboat and vessel to carry a light through the night, near the top of their foremast, in my opinion, would prevent the loss of many lives and much property.

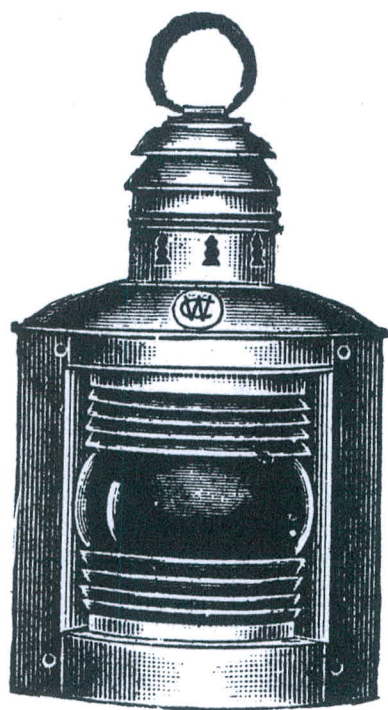
Geo. H. McWherter, collector at Oswego, New York, wrote that several years ago a collision took place between the two largest steamers then navigating on Lake Ontario—the *Great Britain* and the *United States*. The latter had her timbers and planks broken and forced in about one foot above the waterline, causing a large hole. He said that the ship had a full company of passengers; and if the damage had been only slightly worse, there would have been, “frightful loss of life.” He also noted that recently the steamer *Lady of the Lake* ran into the brig *Iroquois* during the night causing considerable damage to the *Iroquois*, which had not been displaying lights.

He stated that back in 1837, New York passed a law requiring vessels navigating the St. Lawrence and Niagara Rivers and Lake Ontario to display a light at night. But he thought that because it

The lights should be colored either green, blue or red, and should extend to all descriptions of boats navigating the rivers, so as to at once be recognized as signal lights of boats, and not mistaken for shore lights.



Illustrations of port (above) and starboard (below) lights. USLHS archives.



One mariner suggested that all vessels, underway or at anchor, should carry a light above deck and that steamboats underway or at anchor should carry two lights—one forward, amidships near the bow, and low down; the other aft, amid-

ships, at least ten feet above the upper deck. This arrangement would show in what direction the steamboat was going. was a state law, the Revenue Marine was not bound to notice violators, except, maybe, by informers. However, if Congress passed such a law, then the Revenue Marine (forerunner of the Coast Guard) and custom officers, "might be enjoined to see to its due observance, and the law would doubtless be rigorously enforced."

Although several of the initial responses were negative, in the end the overwhelming comments were positive urging the federal government to enact some sort of standard navigation lighting for vessels at night.

The president of a marine insurance company suggested in his letter:

It has been urged in opposition that the lights carried on vessels might be mistaken for government lights in the bay and river. This can easily be prevented by using onboard sailing vessels a red light of globular form, such as are used by the ferries in New York.

Not waiting for the federal government to act, Pennsylvania passed a law in 1846 requiring vessels in the Delaware River and Bay to display a light at night and attached a fine for failing to do so. Delaware agreed.

ships, at least ten feet above the upper deck. This arrangement would show in what direction the steamboat was going.

N. P. Porter of the surveyor's office wrote:

All steamboats and other vessels should be compelled to carry two large signal lights, differing in color from common fire lights (lighthouses) ... Signal lights should be large globular glass lamps, particularly on steamboats, colored with deep crimson color with some liquid coloring. The lamps should not be less than one foot in diameter, and there should be two of them placed on steamboats—one high up, between the chimneys, say twenty feet above the pilot house, and the other on the after part of the boat ... at least ten feet above the deck ... and about twenty feet forward of the stern. By having these two lamps, the masters and pilots say they can tell whether a boat is lying with their broadside to them or bow foremost when they are meeting each other; that when there is but one signal light, it is impossible to tell the correct position of the boat meeting them.

P.B. Atwood, secretary of the Firemen's Insurance Company, wrote, in part:

The lights should be colored either green, blue or red, and should extend to all descriptions of boats navigating the rivers, so as to at once be recognized as signal lights of boats, and not mistaken for shore lights.

The numerous responses were overwhelming in support of a system of lights on vessels at night.

Although most of the concerns were directed to vessels navigating the bay, rivers and Great Lakes, mention was made concerning the coastal trade. A few responses worried, rightfully so, about foreign vessels arriving on our shores.

The responses clearly indicated that whatever type of lights were involved in any law, they would have to be distinguishable from shore lights, lighthouses, etc. The mention of color came up frequently and some recognized the need for multiple lights. All of these comments set the stage for the system of navigation lights we employ on our vessels today. Red on the port (left side) green on the starboard (right side), white lights at the bow and stern and a varying system of masthead lights for special purposes like tugs with tows. In fact, today, all vessels of the world use the same system of lighting on vessels at night. And, that world-wide system started in the United States in the mid-19th century.

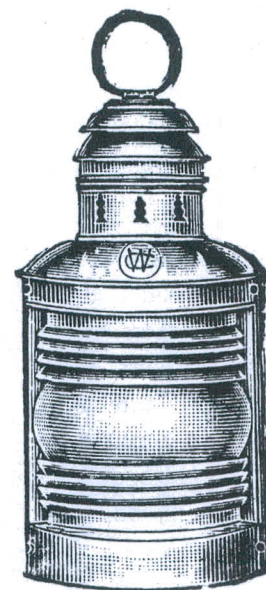
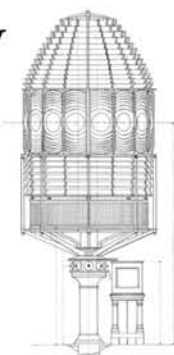


Illustration of a bow light. USLHS archives.



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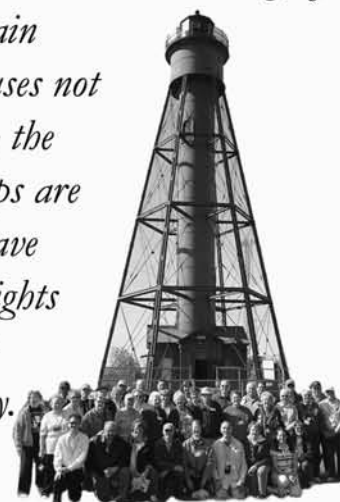
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Tinicum Lighthouse, NJ