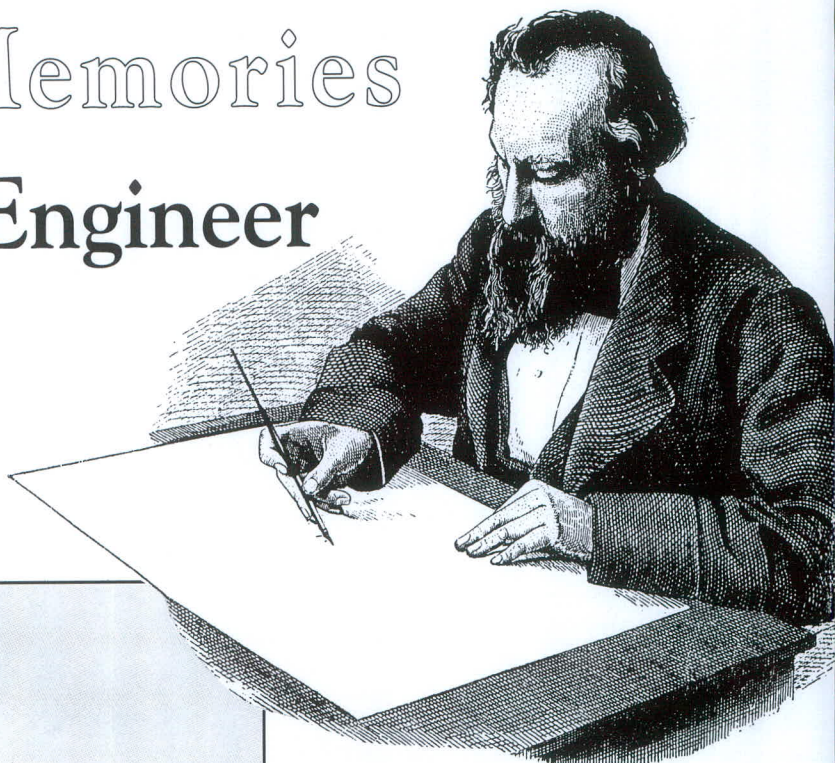


Lighthouse Memories of a Lighthouse Engineer

By Capt. Edward Laird, USCG (Ret.)



Cape Hinchinbrook Light Station when it was manned. Note the diaphone fog signal horns protruding from the tower and the old Lighthouse Service emblem over the entrance door. U.S. Coast Guard photo.

After graduating as a civil engineer from Oregon State University and taking a Civil Service examination early in 1927, I entered the Lighthouse Service in San Francisco as a Junior Engineer. I was transferred to the Alaskan district as an assistant engineer about March of 1930.

At the district office in Ketchikan, a Captain Dibrill was superintendent. He had gained his title from the U.S. Coast and Geodetic Survey Service, where he had been an officer and captain of one of their vessels. I do not know when he came to Alaska, but he had been there many years by the time I arrived. The assistant superintendent was Dwight Chase who later became Captain Chase, USCG, in charge of the Civil Engineering office at the Coast Guard Headquarters, Washington, D.C. I was the only true engineer in the office, as Chase was more of an administrator without much engineering background. I had no architectural training, but had considerable design experience using reinforced concrete, having designed the lighthouse depot building on Yerba Buena Island in San Francisco Bay as well as other projects.

Located on the second floor of the Miners and Merchants Bank building in Ketchikan, our office had a chief clerk, Harry Levy; an accountant, a Mr. Fort-

ney; an assistant and two stenographers. One stenographer was Florence Tobin, whose brother Emery Tobin started the magazine *Alaska* and ran it for many years.

When I arrived in Ketchikan in 1930, construction of a new lighthouse was going on at Cape Decision. Critically needed at that vital point for navigation, the design was a modification of the Cape Spencer lighthouse which had been built a few years earlier. It consisted of a central square tower surrounded at a lower level with living quarters and machinery room; the whole building was of reinforced concrete.

with my "E.W.L." in the drawn and traced note of each title.) The old building was inadequate in size, and of wooden construction, subject to fire and deterioration. As it was located close to the cliffs, it was also in danger from erosion.

I designed the new Hinchinbrook station and drew the plans. In those days all finished work was done in ink on linen cloth. I studied pictures of other buildings being erected in that era, and tried to develop a building with a good appearance. I was continually studying, as I had to be an electrical engineer, a heating engineer, a plumbing engineer, and [familiar with] all of the aspects

entailed with the construction of a building. At Cape Hinchinbrook we put the type 2F diaphone (fog signal) in a separate building close to the edge of the cliff, where we thought it would be most effective. The compressed air was generated in the engine room in the main building and piped to the fog signal.

Then, at the wooden Five Fingers light station, the keeper was thawing his water pipes with a blowtorch; the building caught on fire and the entire lighthouse burned down. I designed the new [replacement] station and made it all electrical, using D.C. generators and storage batteries, and motor-driven air compressors. In this way the fog signal was able to start with a moment's notice.

Later, at Tree Point and Sentinel Island, we renewed the lighthouses and fog signal buildings. These were family stations with separate homes for each keeper and his wife; I do not remember any small children.



Left – The new Cape Hinchinbrook tower under construction in 1935. The old tower can be seen at left. The lantern of the old tower was used on the new building.

All of the work was done under the direction of foreman Mike Harris, a skilled craftsman from Norway. He built a temporary wooden bunkhouse for the crew of ten to twenty men, and a cook; he preferred to have a lady cook. Harris constructed all the lighthouses built in Alaska during the 1930's.

The district had two tenders, the *Cedar* and the *Fern*, and a smaller boat, the *Alder*, used for construction work. The *Fern* was replaced a few years later. Ketchikan also had a depot and docks; the depot had a machine shop, carpenter shop and blacksmith shop.

As I remember, Cape Hinchinbrook was the first lighthouse to be replaced. (I'm not clear about the sequence of events from sixty years ago, but all drawings on record are dated. In the Coast Guard office, now in Juneau, one can find scores of plans for many stations, marked



Below – Once the new Cape Hinchinbrook tower was completed the old structure was burned. Both photos courtesy of the U.S. Coast Guard.

Our most isolated stations were Scotch Cap and Cape Sarichef. At those stations, like Cape Hinchinbrook and Cape St. Elias, keepers spent three years on the station and were given one year leave with pay. The only access to the stations was by landing a boat, through the ocean surf, directly on to the beach. The tender *Cedar* made a yearly trip to deliver a year's supply of coal, food, and supplies; it took a whale boat with six men at the oars to run through the breakers on to the beach. A mail boat attempted to land once a month; if the weather was bad, landing was impossible.

The original Scotch Cap and Cape Sarichef lighthouses were wooden structures built about 1903. Each station had three dwellings built close to the beach and separate light and fog signal buildings. The dwellings were [intended] for families but were never used for that purpose, as the stations were considered too isolated. The three or four keepers lived in one building and had to walk a couple of hundred yards to the station building, which was somewhat difficult during the severe weather common in winter.

At Scotch Cap it was decided to replace the deteriorating old wooden lighthouse with a reinforced concrete building which would also house the keepers. Knowing that the area was subject to earthquakes, and having been through a bad one myself (while inspecting the station), I designed extra diagonal reinforcing steel in the tower, more than the standard code required. I was out inspecting the work during the early stages, and I told Mike Harris he was wasting material by pouring such massive foundation piers for the building. He replied that his foundations would be there long after my building was gone. How right he was. The 1946 tidal wave, resulting from an earthquake just off the station, sent a mass of water over it, over a 100-foot-plus cliff, and over one mile inshore. The retreating water carried the tower and building out to sea. Mike's foundations were still in place. The same tidal wave traveled across the Pacific and killed over 100 people on the island of Hawaii. It did damage as far south as Eureka, California, and even snapped



Above – Scotch Cap Lighthouse shortly after completion in 1903.

Below – Off-loading supplies on the beach at the Scotch Cap Light Station circa 1945. The new building was constructed in 1940 and destroyed by a tidal wave in 1946. A small portion of the old tower can be seen left of the tower of the new building. The large wooden structure to the left of the base of the new tower is a temporary barracks. As at Cape Hinchinbrook, the lantern of the old tower was used on the new building.

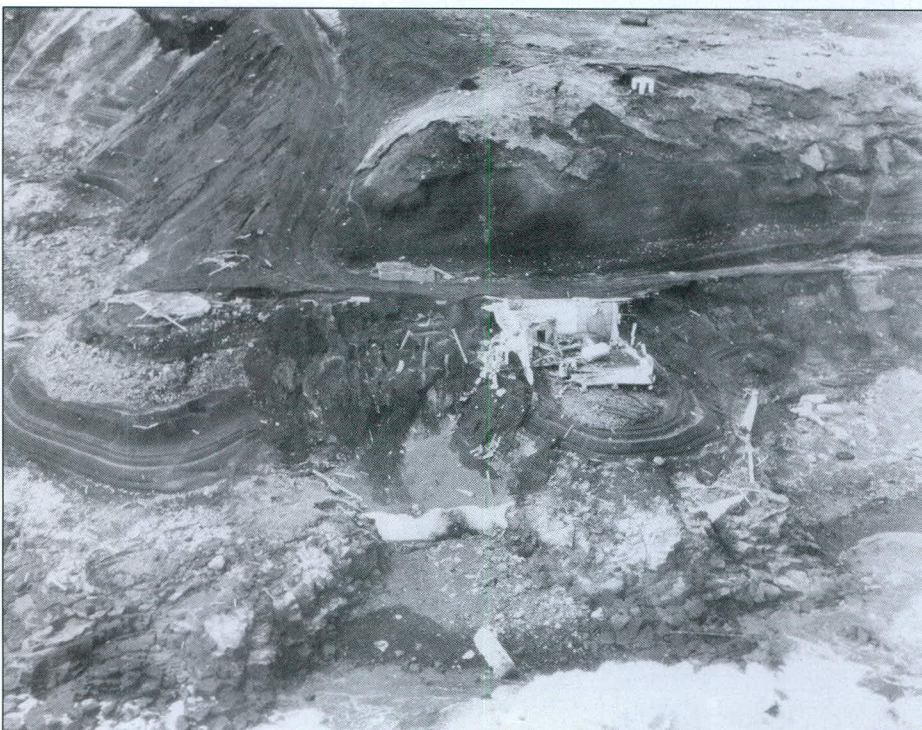
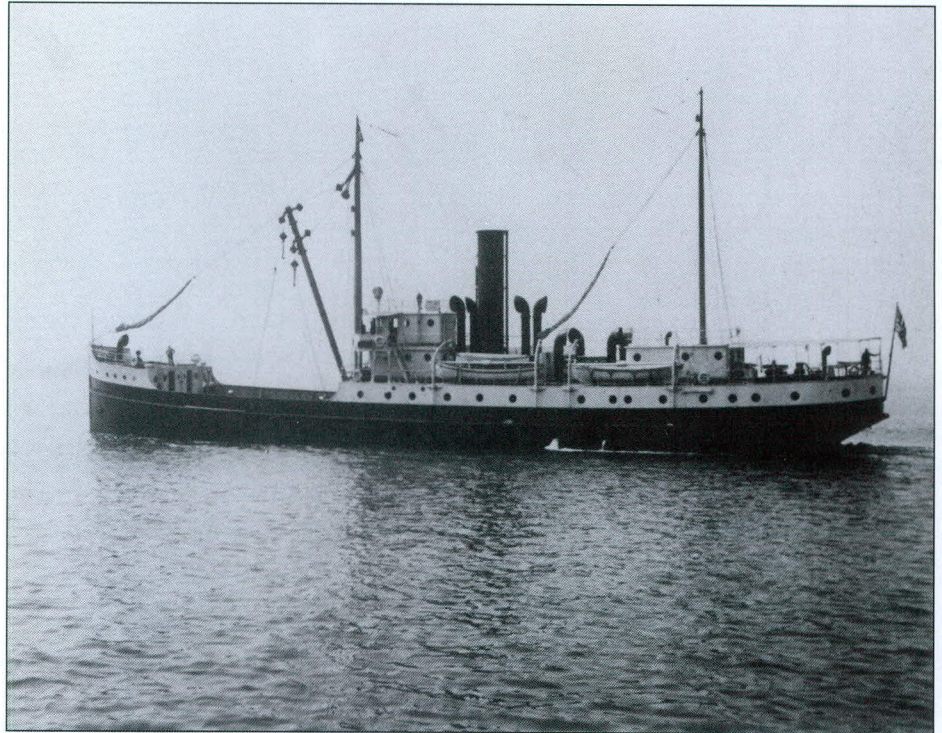
Opposite page – right – The Lighthouse Service tender *Cedar*, the service's largest tender.

Opposite page – below right – The Scotch Cap station shortly after the 1946 tidal wave destroyed the building and killed the five men on duty.
All photos courtesy of the U.S. Coast Guard.



mooring lines in Los Angeles harbor.

On the same trip I wanted to get to Cape Sarichef to inspect the station. The *Cedar* was away working buoys. Mike Harris proposed that we take a dory and an outboard motor for the trip, which we did. Knowing the unreliability of the outboard motors of those days, I now think it was foolhardy to attempt the trip on the open ocean through the Bering Straits in an outboard. We made it without any trouble. At Cape Sarichef I was interested in finding a source of water for the station. The water they used was rainwater [collected] from the roofs; I thought there might be a small stream or seepage from the land into the ocean, where we could put down well points, and pump the water to the station. The keeper, Mr. Sutherland, Mike Harris and I went up the beach searching. Mr. Sutherland, considerably overweight, dropped behind — having a hard time keeping up with Mike and myself. After a while we couldn't see him, and turned back to find him. We did, stretched out on the tundra, dead. With help from the other keepers and a stretcher we managed, with difficulty, to get the heavy man back to the station. I tried to get radio contact with the *Cedar*, but the only vessel I could reach was a Coast and Geodetic survey vessel.



The contact was poor and the [radio operator] had difficulty understanding me. Finally, he said: "It's time for Amos and Andy, I have to go now." Then silence.

Eventually the *Cedar* showed up and we took Mr. Sutherland into Dutch Harbor. I arranged with the trading company factory to have a coffin made by an Aleut Indian. I had neglected to search Mr. Sutherland's pockets, and evidently he had been carrying money, as the Indian had money to get drunk that night. I arranged for funeral services with the missionary pastor at Dutch Harbor, and buried Mr. Sutherland in the cemetery there. Shipment of the body to the States was impossible.

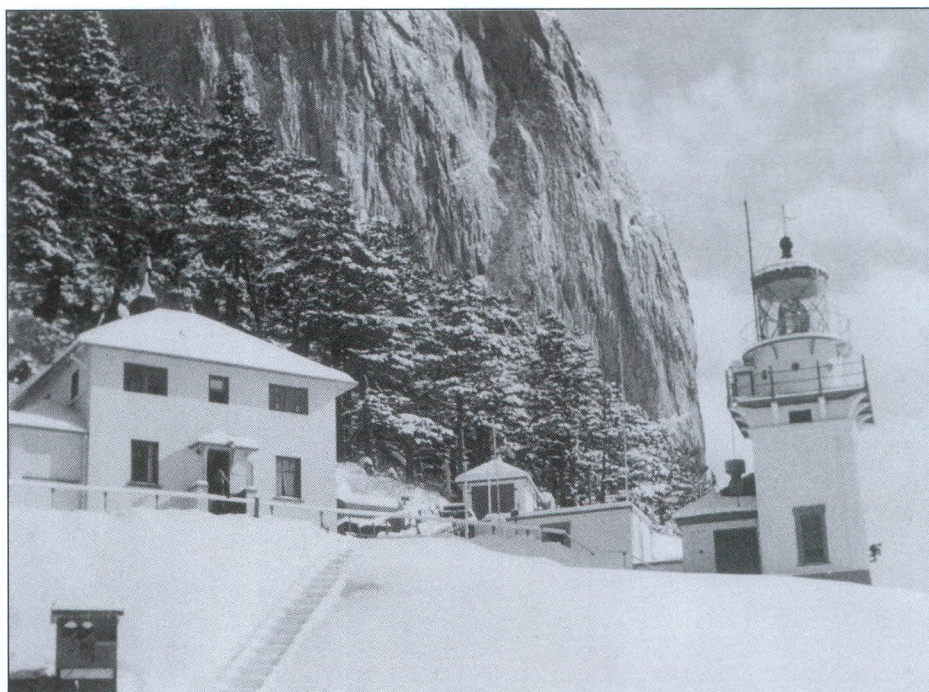
One difficulty in constructing a station like Scotch Cap was that all materials and supplies had to be purchased and assembled, and shipped complete, before

construction began. This entailed hundreds of items and if anything had been overlooked or forgotten, there was no way to get the item to the construction site. We had a rock crusher which was used to make gravel of a proper size from larger rocks. Sand and rock aggregate had to be hauled in from suitable beach sites. At Scotch Cap we bought and furnished the crew with a dump truck to move supplies from the lower landing beach to the upper construction site. Most of the work was done in summer, but a small crew worked all year through the winter. As there hadn't been any outside contacts to infect anyone, after the first couple of weeks there were no colds or sickness, although the men worked in rain, snow and wind.

I left Alaska in 1935, having been promoted to a higher grade [and assigned to] the Portland, Oregon Lighthouse office. In 1938, I returned as assistant superintendent in the Ketchikan office. The U.S. Coast Guard took over the lighthouse service about 1939, but did not take active charge until late in 1940. Captain Dibrill took extended leave and retired, and I was made acting superintendent of the district for about a year, until Captain Zensler of the Coast Guard took charge. I later became a Coast Guard captain and then a college professor, teaching mathematics, but my most exciting days were as a lighthouse engineer, when I was young.

In 1990 we published an overview of the history of the Alaskan lighthouses (Keeper's Log, Vol. VI #3). In the article we called the 1930 Alaskan lighthouse design 'Art Moderne.'

Captain Laird attended the Chesapeake Bay Lighthouse tour last year and had several chats with the Head Keep'. During one of them, he remarked about the Alaskan lighthouse article and stated, "I didn't know that design was called 'art moderne' until I read about it in the Log . . . and I built those stations!"



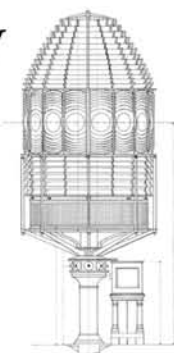
Above – Cape St. Elias Light Station in 1966. Photo by Keeper Eric Awkerman.

Below – Cape St. Elias Light Station under construction in 1916. The main building was constructed by the relatively new method of poured reinforced concrete. U.S. Coast Guard photo.





Join the U.S. Lighthouse Society Today or Give the Gift of Membership!



Restoration & Preservation



Thomas Point Shoal Lighthouse, MD

The U.S. Lighthouse Society has donated to many lighthouse preservation projects throughout the U.S. Most recently we were honored by being presented with the Preserve America Stewardship Award from The White House for our restoration work at Thomas Point Shoal Lighthouse.

*To learn more visit
www.uslhs.org
or
call Headquarters at
415-362-7255*

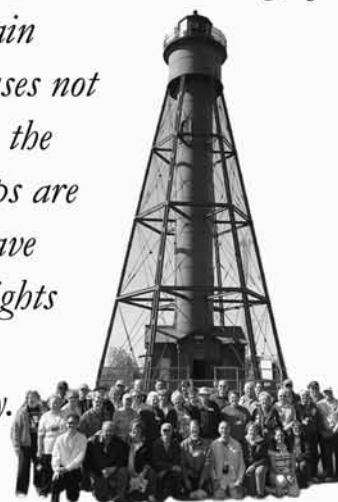
Help Support Our Important Mission!

Education



The Keeper's Log magazine is the only one of its kind and has been published quarterly since 1984. Receive this award-winning publication as a benefit of membership.

The Society organizes domestic and international lighthouse tours. Many of our excursions gain access to lighthouses not normally open to the public. These trips are a great way to have fun, see lots of lights and learn about lighthouse history.



Tinicum Lighthouse, NJ