

“Terrible Tilly”



Tillamook Rock Lighthouse

by C. H. McClelland

Henry Jenkins, the youngest of four keepers at Tillamook Rock Light Station, came abruptly awake in his bed, arms flailing, gasping for air. He was lying almost completely submerged in a pool of icy water. Gagging and choking, he fought to breathe. All he could think was that the station had finally been swept from the rock and into the sea. The water around him receded and he found that he was wedged into the tiny bedroom closet with his legs entangled in the rungs of a chair. The roar of the storm was thunderous. As another surge of water blasted through the window, it picked up the four-poster brass bed and sent it skidding across the concrete floor.

After working the graveyard watch the night before, Jenkins had crawled into bed shortly after nine A.M., only minutes before the storm yanked him awake. By ten in the morning, the

scene on Tillamook Rock was one of utter chaos. Titanic walls of boiling, greenish-black water, mountainous in their hugeness, reached upward against the lantern room 131 feet above the sea and cascaded down on the concrete and steel roof. With a violent shudder, the entire western overhang of the rock, weighing an estimated 25 tons, broke loose and plunged into the sea. Tons of water, broken glass, rocks, dead fish and sea birds, seaweed and barnacles came pouring down the throat of the tower, flooding the interior of the living quarters and forcing the four keepers to climb the steel roof supports to keep their heads above water. The undersea telephone cable to Seaside on the mainland had parted long before. They were isolated from all humanity with no means of communication.

Even though none of them expected to see another day, their sense of duty triumphed over their fear. By dint of in-

credible effort, they managed to get to the lantern room. Sixteen glass panels had been smashed. One 60-pound boulder had destroyed the oil vapor lamp and the lens.

All that night and the next day, the four men worked furiously without food or rest, getting new panels in place and rigging up an emergency light. Finally, by the second night, Tillamook Rock Light Station was giving off a light. It was feeble and it was a steady white glow rather than the flashing beacon that navigation charts showed, but it was a light.

Violent storms such as this are an almost yearly occurrence at Tillamook Rock. Placed squarely in the path of southeasterly gales and hurricanes, it receives the brunt of all the foul weather sweeping up the coast. Mountainous seas continue to pummel the

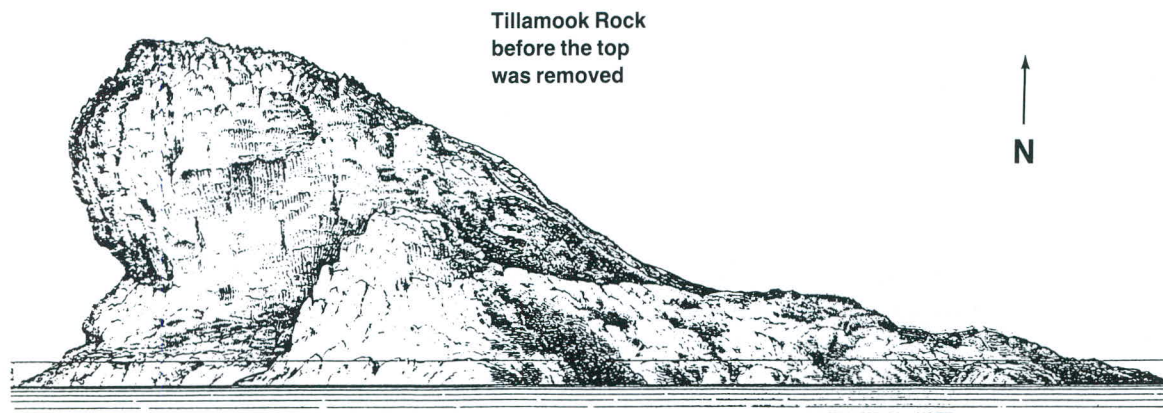
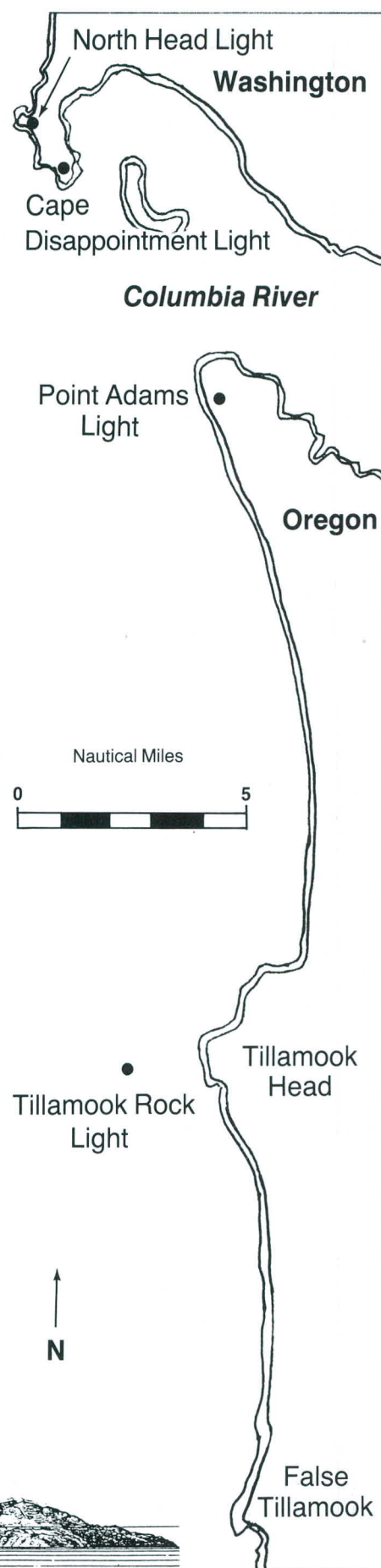
place, and vicious storms still chip large chunks from the rock itself. Just before turning off the light for the last time in 1957, Oswald Allik, the last head keeper, expressed serious doubts that the rock would continue to stand for many more years, saying that the relentless pounding from the sea was having its effect and the structure was "creaking in the joints like a tired old man."

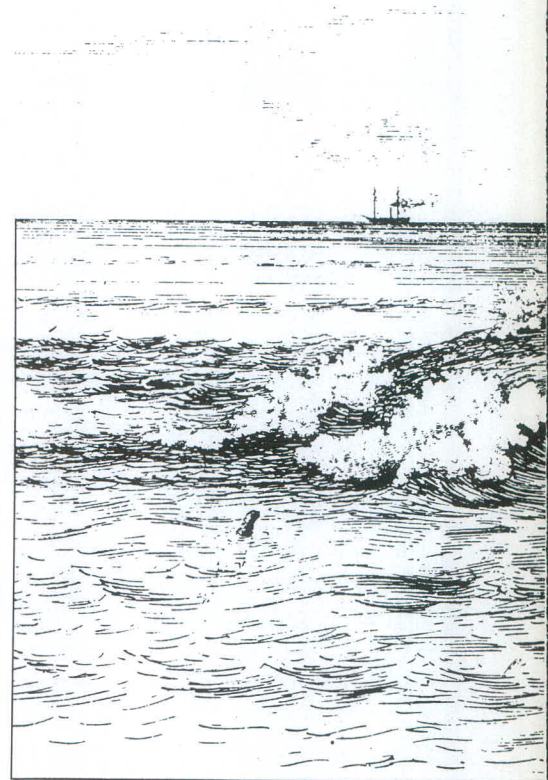
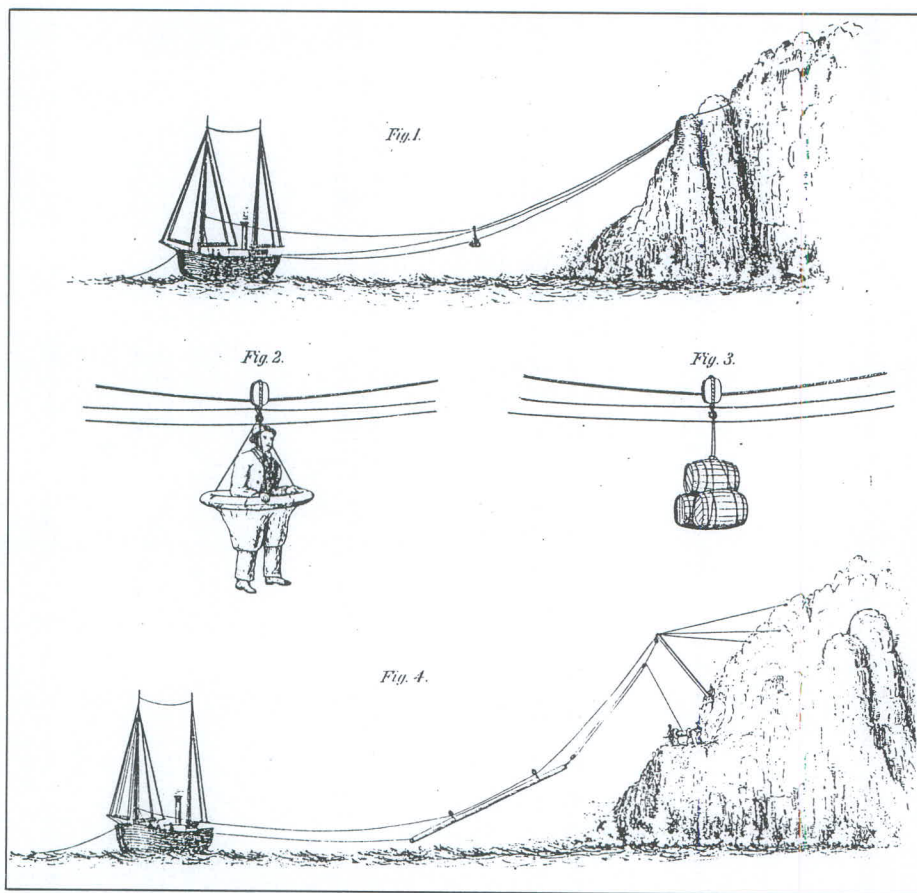
"Terrible Tilly," as it came to be known by seamen throughout the world, perches on a basaltic fist of rock barely an acre in area, protruding from the sea 1.2 miles off Tillamook Head on the Oregon coast between Seaside and Cannon Beach, twenty miles south of the entrance to the Columbia River. The water on the west, north and east sides of the rock is from 25 to 40 fathoms deep, but shoals to 16 and 18 fathoms on the south side over a limited area. The sides of the rock are so steep that it is reported by the lighthouse keepers that whales are frequently seen rubbing their barnacles off against the rock. Before operations were commenced here, the rock was the resort of thousands of sea lions. Some of the roughest water in the world is encountered on the Columbia bar at the point where the waters of the Columbia River meet the ocean flood tide. According to Jim Gibbs, author of *Pacific Graveyard of Ships*, the "number of vessels which have sustained damage or been lost on the bar . . . would likely exceed 2000, with more than 1500 lives claimed."

It was at first proposed to locate the lighthouse on the summit of Tillamook Head and, on June 20, 1878, the Oregon congress appropriated the sum of fifty thousand dollars for the project. However, two things militated against the location: the cost of building and maintaining a road to the 1000-foot summit, and the almost constant fog and cloud cover at that level.

Assigned to the project, Major G. I. Gillespie of the Army Corps of Engineers, suggested that the only logical place for a lighthouse was Tillamook Rock. There was opposition to this suggestion, however. Up to that time, as far as was known, no one had ever set foot on the place. But, as ships continued to founder and lives were lost, there seemed to be no alternative to following Gillespie's suggestion. Eventually the U.S. Lighthouse Board officially sanctioned the plan. Meanwhile, two more appropriations had been approved for an additional \$75,000.

The District Superintendent of Lighthouse Construction, H. S. Wheeler, eventually took charge of the operation. He finally managed to leap ashore from a small boat, but attempts to get his surveying instruments onto the rock proved futile, so he was forced to make his measurements with a hand tape. In his report later submitted to the Board, Wheeler indicated that the only possible method for preparing the surface of the rock for a foundation was to blast several feet off the rounded surface.





In the only recorded tragedy associated with the construction of Tillamook Light, master mason John Trewaves was drowned on September 18, 1879 while trying to leap ashore. News of his death so upset the public that even those who had been most in favor of building the lighthouse on the rock were now loudest in demanding abandonment of the project. But things had progressed too far to stop.

Before public sentiment could undermine the project, Charles C. Ballantyne was selected as construction boss. His first task was to line up eight quarrymen, men who were not only skilled in their profession, but who would also be impervious to negative gossip about the place. Rightly figuring that if the men were free to head for the local taverns, they would get the wrong kind of signal, Ballantyne succeeded in making arrangements to house the group in a vacated lightkeeper's house at Cape Disappointment, away from the bad-mouthing. Twenty-six days later, four men finally succeeded in scrambling ashore. With great dif-

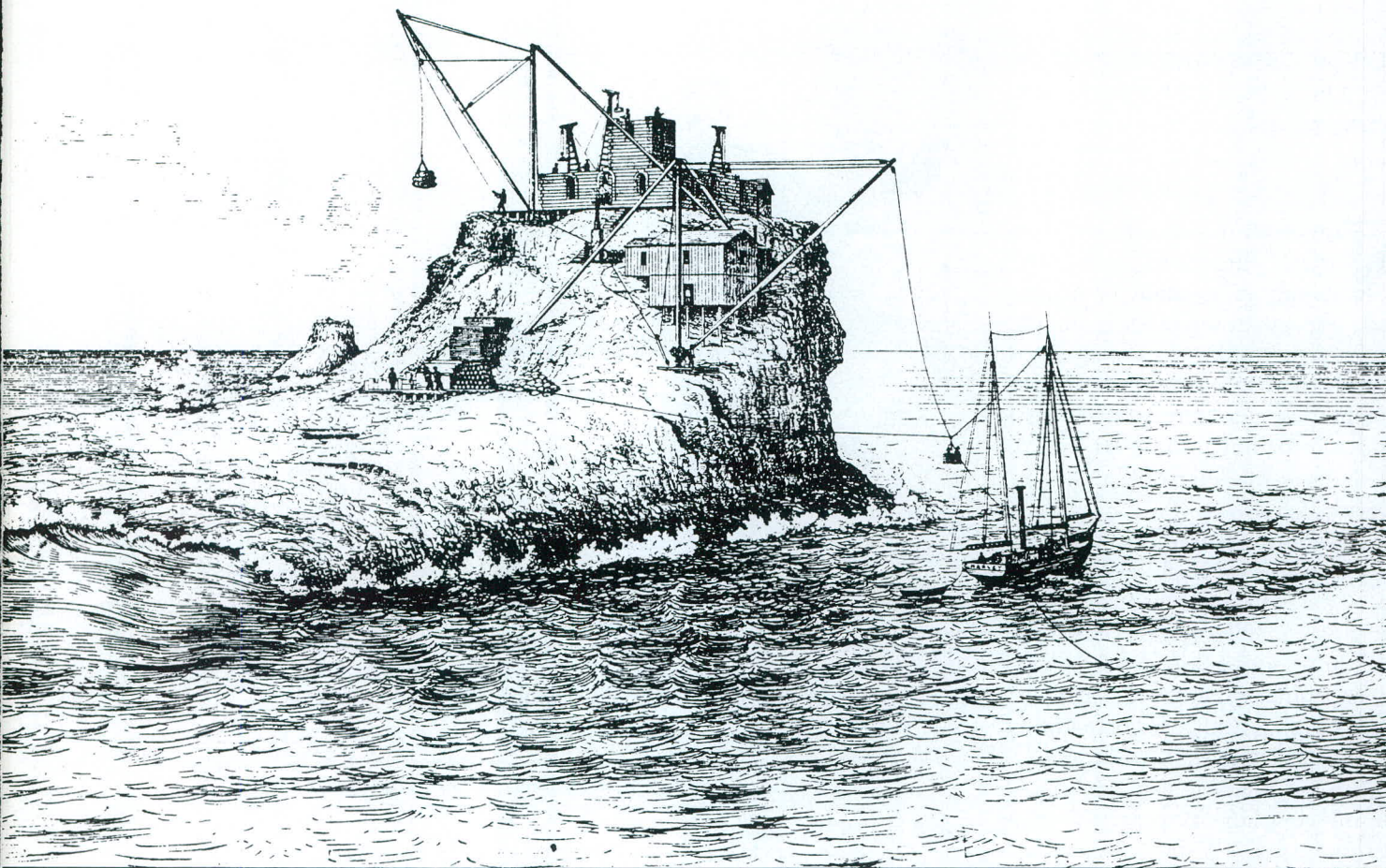
ficulty, tools and provisions were also hauled up. Five more days passed before the remaining four workers could be put ashore with more tools and provisions.

Shelter was the number one priority. The workers found that the only way to gain a certain amount of protection was by cutting a canvas sheet into individual A-tents which were lashed down by ropes and ring-bolts driven into the rock. The tents proved virtually useless against the driving rain and shrieking wind and soon clothing and blankets were soaked and provisions ruined.

It rapidly became apparent that provision would have to be made for more substantial shelter, so, before winter swept in, permanent quarters in the form of a small frame house were built on the prepared area at the 90-foot level on the north side.

At the same time, a wooden storehouse for the supplies was erected.

Second in importance only to shelter was the arrangement for some better procedure for transferring personnel and provisions from boat to rock. Ultimately, a large derrick would be used, but until such time as it could be rigged up, a stout line was stretched from the mast of the lighthouse tender and secured to the rock. Then, by means of a pulley arrangement, provisions could be pulled ashore in a cart and personnel could ride the intervening distance in a "breeches buoy." In theory, the breeches buoy idea was good; in practice, it often proved faulty for, in heaving seas, there was no way to keep the line taut, with the result that the man in the breeches buoy might find himself yanked unceremoniously through the frigid sea water completely submerged for much of the ride, then jerked high in the air to complete the journey. No matter what its drawbacks, all agreed that this arrangement was infinitely superior to leaping ashore from a wildly undulating surf-boat.



Ballantyne's object was to build a working bench at the 90-foot level, to carry this around the crest and work inward toward the center. Progress was slow and dangerous. With no natural working areas on which to stand, the crew had to work from staging suspended from bolt attachments let into the crest of the rock. Many of the stagings were more than 100 feet above the ocean, and the men

there was plenty of hard bread, coffee and bacon, to last out the storm.

When efforts to recruit more workers were intensified, it became obvious that adverse propaganda was making the rounds, and a rumor even started that reluctant workers were being shanghaied. At any rate, more hands eventually appeared on the job.

With additional help, fresh provisions and improved shelter, plus a few

land, and huge squares of granite now rose block by block as the structure took shape. Summer faded into fall and, on January 21, 1881, the light was displayed for the first time, a primary seacoast light of the first order of the system of Fresnel, a 75,000 candlepower light shining 131 feet above the sea for a distance of 22 miles.

Originally, duty periods for keepers were three months at a stretch with two weeks off. This soon became 42 days on and 21 off. Five keepers were assigned to the station so, at any given time, one was on leave, leaving four to tend the light—actually three plus one who served as cook for the day. Watches were divided into three eight-hour periods. The light was turned on an hour before sunset and turned off an hour after sunrise. Whenever the weather thickened and visibility dropped to less than two miles, the fog horn was activated. Interestingly enough, it was the fog horn which caused the bitterest argument among the men. The decision to turn the fog horn on was left to the man on duty, and woe betide him who

“... a violent hurricane tore the roof off the blacksmith shop and carried the Storehouse bodily into the sea.”

were compelled to swing crazily in heavy winds, constantly soaked by spray. There was also an everpresent danger from avalanches started by the outer scale-like rock.

In January of 1880, a violent hurricane tore the roof off the blacksmith shop and carried the storehouse bodily into the sea. Fortunately, supplies had been stored in the living quarters, so

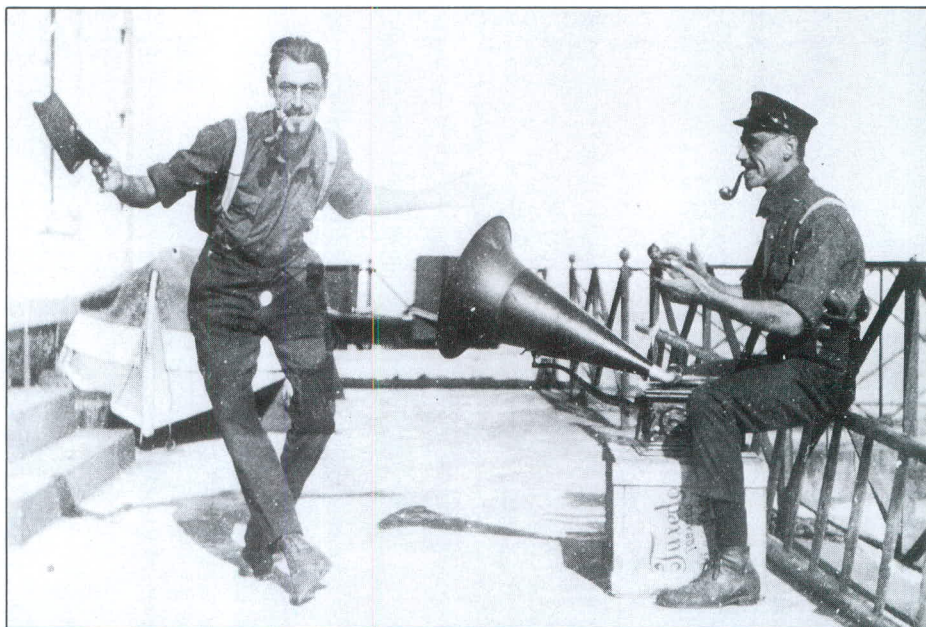
days of mild weather, the project showed its first real progress. With the big derrick in full use, heavy building material could now be transferred. Work continued more or less steadily, and the laying of the lighthouse cornerstone was hastened by several weeks. Stone for the lighthouse was fine and compact basalt obtained from a quarry in Mount Tabor, six miles east of Port-

kept it on unnecessarily long, for he was certain to bear the brunt of everyone else's wrath.

Noticeably missing in the visitors' guestbook were the names of women. From the outset, the government decreed the place "a male station, far too confined for both sexes." Never in the history of the lighthouse had any woman been considered for duty, and it was to remain that way till Tillamook's last hour of service.

Every afternoon except Sunday, the complete routine of lighthouse cleaning was pursued. Maintenance of machinery was a necessity: four diesel engines, two compressors, two generators, and other equipment had to be kept operating, and exterior painting was done when weather conditions permitted. Most things were in duplicate—fog horns, compressors, generators and electrical systems. A standby kerosene lamp was available for placement in the lens should the electrical systems short out.

In the summer of 1957, the Coast Guard solicited comments on a proposal to abandon Tillamook Light as an economy measure. Coincidentally, Oswald Allik, the last head keeper on the rock, confessed that the structure was reaching the end of its days. He and his crew, he said, had been busy sealing cracks in the floor, walls and ceiling with plastic cement. It couldn't stand much more pounding. Anyway, the Coast Guard said, the station was the most expensive lighthouse to operate in the 13th District and one of the most costly in the nation; its equipment was antiquated and badly in need of repair; its location was no longer vital to merchant shipping, which utilized innovative electronic navigation aids including the Columbia River Lightship radio beacon. Furthermore, the service indicated that an unmanned specially designed ocean buoy could be placed a mile west of the rock and could adequately do the job for a fraction of the cost. The closure date was accordingly set for September 1, 1957.



Above—Keeper W. T. Laurence has some fun with his camera on the front deck of Tillamook Rock. He has captured himself with a double exposure, applauding himself doing a jig . . . things were sometimes slow at Terrible Tilly. Oregon Historical Society photo.

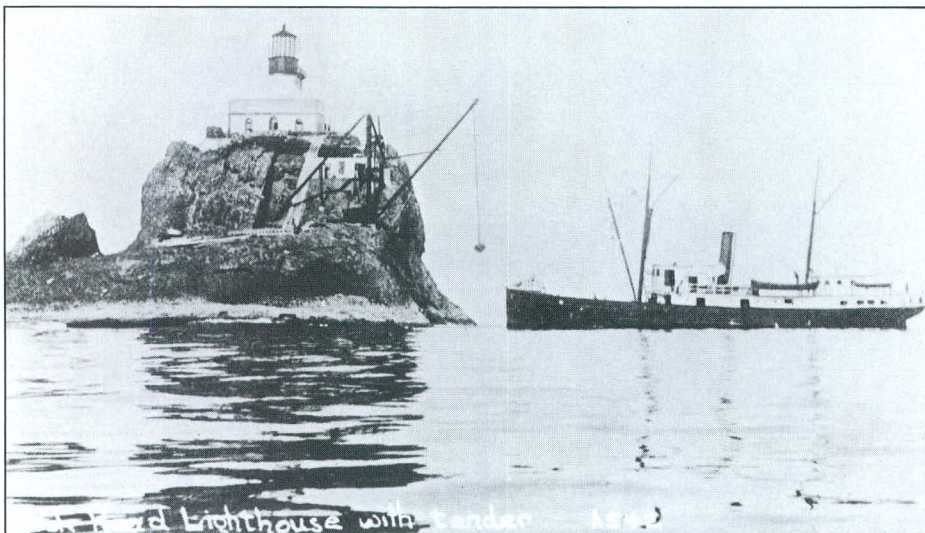
[Extracts from the journal kept by A. Ballantyne, foreman in charge of the working party on Tillamook Rock, Oregon, from September 22, 1879, to October 27, 1879.]

- 1879
- Sept. 22 Under orders for Tillamook Rock, getting ready goods, stores, & c:
- 23 Arrive in Astoria with eight men. Find Corwin at our service. Pilots report weather fine on the bar.
- 24 Find heavy moorings indispensable. I put men to work on large sparbuoy. Got 3,500-pound sinker from bouy-dept. Pilots report bar smooth.
- 25 Got lumber, stores, & c., on board the cutter. Spar-buoy was finished about 11 p.m. Stormy; heavy rain.
- 26 Weather very stormy. I put the men to making water-tight canvas bags to land stores in.
- 27 Still at Astoria. Weather rough.
- 28 Very rough weather. Pilots report heavy sea on the bar.
- 29 Stormy; still at Astoria.
- 30 Stormy.
- Oct. 1-5 Stormy; still at Astoria.
- 6 The weather looks a little better.
- 7 The weather looks good towards evening.
- 8 I left Astoria alone in the cutter, to find out how the weather is outside; lay over night in Baker's Bay.
- 9 Started out in the morning, but experienced rough weather on the bar; came back to Astoria; met Captain Wheeler.
- 10 Took the men on board the cutter and went over to Baker's Bay. The bar being still rough, we put the men in quarters ashore at Fort Canby.
- 11 Still at Fort Canby; weather bad, but moderates toward night.
- 12 Shipped all hands aboard the cutter and crossed bar early, with spar-buoy in tow; succeeded in setting moorings; the wind springing up, we returned to Baker's Bay.
- 13 Made another attempt in the morning, but found the bar too rough; came back, and put men ashore at Fort Canby.
- 14-19 Stormy; heavy sea on the bar; still at Fort Canby.
- 20 The weather looks better toward night; bar getting smooth.
- 21 Shipped all hands on board the cutter and steamed out; came alongside Tillamook Rock about 11 a.m.; succeeded in landing four men, with some provisions, water, tools, blankets & c., and then steamed out to sea all night.
- 22 Came back to the rock in the morning, but the wind springing up pretty stiff from N.E., we could not effect a landing, so we steamed for Astoria and took aboard more provisions.
- 23 Left Astoria at 5 a.m., and went out to the bar, but found it too rough. We anchored in Baker's Bay and put men ashore at Fort Canby; wind S.E. (Thomas Brown reports that this was a terribly rough night on the rock.)



Above—Keeper W. T. Laurence (left) and another (unknown) keeper share some time in the kitchen at Tillamook Rock. Not exactly the 'spit and polish' image of a lighthouse kitchen that we often envision. But then, perhaps the Inspector isn't expected for a few months. Oregon Historical Society photograph.

- 24 Cutter still in Baker's Bay; a heavy sea running on the bar; wind SSE. (Brown reports that heavy spray broke over the rock, and they got their blankets and clothes wet.)
- 25 Heavy sea on bar breaking over both channels, but smooths down towards evening, wind dying out.
- 26 Left Baker's Bay early and came alongside Tillamook rock about 10 a.m. Landed 33 packages of provisions, lumber, tools & c. Fog and darkness set in, and we steamed out to sea for the night.
- 27 Came back to the rock in the morning, and reset the moorings, which we dragged the day before; then we landed 27 packages of provisions, & c. The wind freshened from N.E., toward noon, and we cast loose and steamed for inside the bar, where we encountered some heavy seas. We came to anchor at Fort Stevens for the night.



Above—It's a rare day when the seas are calm enough to enable the lighthouse tender to maneuver under the hook. The ship is possibly the *Madrono* or *Manzanita*. Oregon Historical Society Photograph

Less than two years after closure, Tillamook Rock was put in the hands of the General Services Administration for disposal. During those two years, a group called the Save The Tillamook Light Association attempted to engender interest in maintaining the beacon, but attempts to raise sufficient money failed, and the Federal government offered the rock and lighthouse to the State of Oregon. After considering the proposal, Oregon turned down the offer on the grounds that it would not be able to maintain the property adequately. When the GSA resumed ownership, they immediately put the rock and lighthouse on the auction block.

Some 400 persons responded to the GSA advertising in the summer of 1959. Academic Coordinators of Las Vegas was high bidder at \$5600. A couple of representatives of the firm spent an hour or two on the rock, but the place remained virtually uninhabited for the next decade.

Then, in 1973, a New York executive with General Electric, George Hupman, bought the place for \$11,000. He claimed he wanted it for a vacation retreat, where he and his family could get away from everyday noise and pressure. He and his wife made occasional, brief visits till the summer of 1975, then his interest flagged, and he did not get around to coming back. The winters came with their furious results, more cracks opened and more weather broke through and the sea birds took over once more.

In January of 1978 Hupman sold out to 25-year-old Portland bachelor Max M. Shillock, Jr., who purchased the guano-encrusted "dream house" for \$27,000. Shillock's purchase started a chain of events that ended up in Circuit Court in Astoria. A suit, brought by an elderly Eugene woman, Joy Goolsby, who claimed Shillock had swindled her out of more than \$30,000 charged that he had misrepresented his personal wealth and "with malice aforethought, cultivated the acquaintance of the plaintiff and elderly women generally . . . for the purpose of obtaining money and assets of value from them." Even-

tually the suit was settled out of court and the judge gave Mrs. Goolsby title to the lighthouse. She immediately announced she wanted to sell it to a legitimate buyer to recoup the money she had loaned Shillock.

The lighthouse was sold again, this time for \$50,000 to Mimi Morissette, a Portland real estate broker and a group of 16 other backers. The idea of using it for a columbarium or storage place for human ashes occurred to the group, and Eternity at Sea was born. It all started out as a joke, but people seemed to think it was a great idea. Morissette estimated that it would cost in the neighborhood of \$100,000 to prepare the inside of the lighthouse for some 100,000 niches to hold remains. Urned ashes of "new customers" would be taken to the offshore repository about twice a year.

Prices varied from \$1000 per person in the Derrick Room near the bottom of the lighthouse to \$5000 in the Lantern Room. The columbarium has the capacity for 467,970 more niches, but these prices were effective only during the introductory period. Now they range between \$1000 and \$25,000.

Like a true entrepreneur, Morissette points out at every opportunity that Eternity at Sea is the only columbarium in the world offering true burial at sea. In addition, she adds proudly, "We made the National Historic Registry, and now we're shooting for landmark status."

In 1985, Mimi, as director and Rudi Milpacher as president of Eternity at Sea, launched a nationwide campaign to sell the niches. The campaign is ongoing today, but the hoped-for rush to reserve burial space has yet to materialize.

One thing is for sure: several of the old sea dogs who owed their continued existence to Tillamook Rock's faithful light would probably roll over in their graves if they knew what the weathered structure is now being used for.

From the mainland, the lighthouse looks about the same today as it has for the last twoscore years. About the only noticeable difference now is that the



Above—"One hand for the luggage and one hand for the hat" as a keeper returns to Terrible Tilly from shore leave. Oregon Historical Society photograph. Below—The Lighthouse Tender *Sequoia* stands off Tillamook rock as her pulling boat maneuvers under the hook. Columbia Maritime Museum Photograph.



Tillamook Log Entries

- July 23, 1881 All hands well and anxiously looking for a boat to bring the mail
- July 25, 1881 Clear, light southerly breeze today, quite warm and pleasant, something unusual for this place. No boat from town with mail. Something should be done about the mail matter if they ever expect any to stay here any length of time, nothing new on the Rock.
- Aug. 16, 1881 Saw several fur seal around the Rock, *Oh for mail!*
- Sept. 28, 1881 Have been looking for Steamer *Shubrick* to take 1st Ass't Stark away and bring someone in his place am anxious to have the change made as Stark is not fit for the place.
- Oct. 8, 1881 Vice Stark resigned.
- Dec. 21, 1881 Blowing a gale today from S.E. Cloudy saw no vessels we have a nightly lodger in the shape of a very large Sea Lion who came up to sleep on our door steps—rather startling to open the door on a dark night to be confronted by such a visitor, all well on the Rock.
- Dec. 24, 1881 Rainy night light N.W. breeze to the first fine day for two weeks, saw 3 sail and one steam vessel. Christmas Eve, but a dull one for us on the Rock, no way to make tomorrow any more agreeable. All Well.
- Dec. 25, 1881 Nothing new on the rock, have had a dull Christmas.
- April 3, 1882 Keeper Rowe sent in his resignation 'cause from health.
- May 18, 1882 N.W. Breeze today with rain squalls, been trying to repair the boat as we shall be obliged to try and reach the main land unless the steamer with provisions comes within a few days, we are living on beans and flour (alone).
- May 20, 1882 Heavy northerly wind clear and warm. Launched the boat and went to one of the mooring and tried to catch fish, "not even a bite" no meat, no coffee, no sugar, no pickles, and no fish in fact we have nothing but dissatisfaction at the way we are treated. Steamer *Shubrick* came to the rock at 7 PM too rough to land went to Anchor at Arch Rock.
- Dec. 9, 1894 Heavy seas started at 11 AM came over tower 10 plate glass were broken
- Dec. 12, 1894 First warm meal since 9th
- Dec. 13, 1894 *Columbine* arrived but could not land delivered news in bottle
- July 15, 1896 *Manzanita* arrived 2 PM tried to make landing but could not due to heavy sea, proceeded south.
- Nov. 2, 1896 Heavy sprays coming over roof all A.M.
- Nov. 13, 1896 Telephone was fixed this A.M. First message sent.
- Dec. 31, 1896 The sea is high, goes over the roof occasionally and filled oil butt.
- Jan. 27, 1897 Pilot Schooner *Jessie* called and landed some newspapers.
- July 19, 1899 Lassold a big bull sea lion early this morning, weight 2,000 lbs.

welcoming light no longer flashes on an hour before sunset and throughout the night. Swells still heave and crash against the lower bastions of the rock and thunder through the cleft on the south side. And, in the most violent storms, the furious combers still completely inundate old Tilly. With no more human activity to drive them off, sea birds have reclaimed the place and often turn it white with their droppings. But the present owners insist they won't drive the birds off. They're a natural part of the lighthouse atmosphere. As Mimi Morissette says, "If someone is bothered by birds around their cemetery, they shouldn't be buried in a lighthouse a mile at sea."

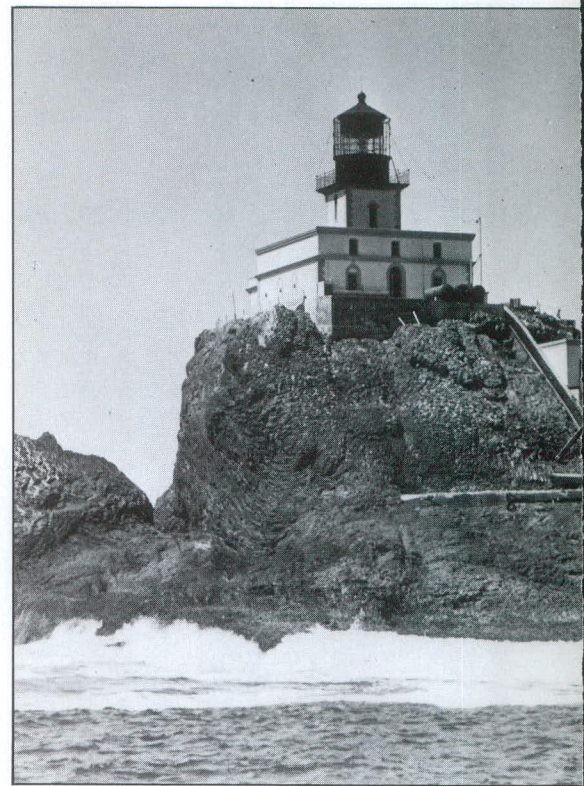


The last keeper on the rock, Oswald Alik, was in charge when the Coast Guard decommissioned the station in 1957. His last entry in the lighthouse log, written on 10 September of that year, captures the sentiments of many a lightkeeper:

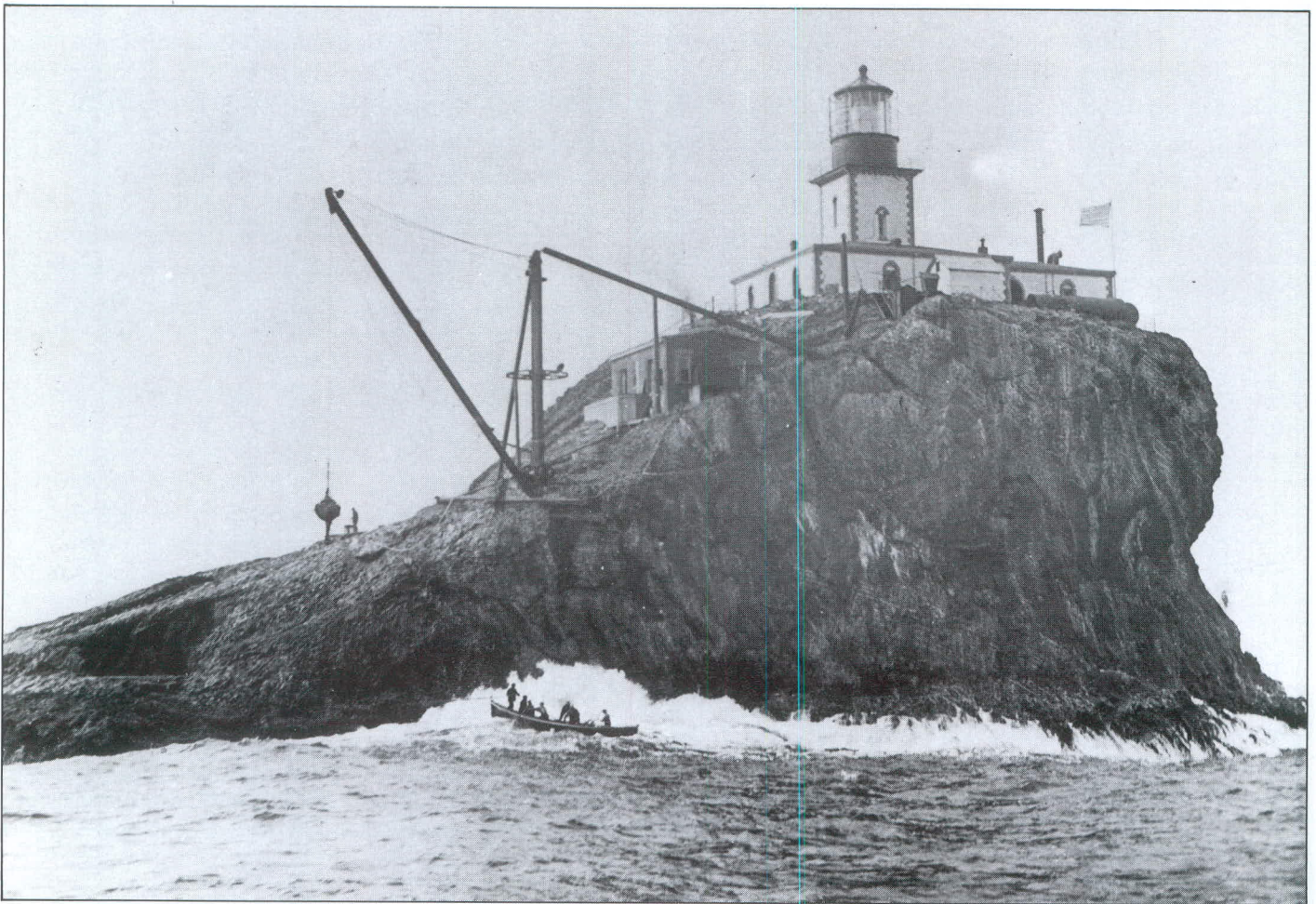
"Farewell, Tillamook Rock Light Station. I return thee to the elements. You, one of the most notorious and yet most fascinating of the sea-swept sentinels in the world. For 77 years you have beamed your light across desolate acres of ocean. Keepers have come and gone; men have lived and died; but you were faithful to the end. May your sunset years be good years. Your purpose is now only symbol, but the lives you have saved and the service you have rendered are worthy of the highest respect."

These words, perhaps better than any others, express the feelings of those who have come in contact with Tillamook Rock Light Station.

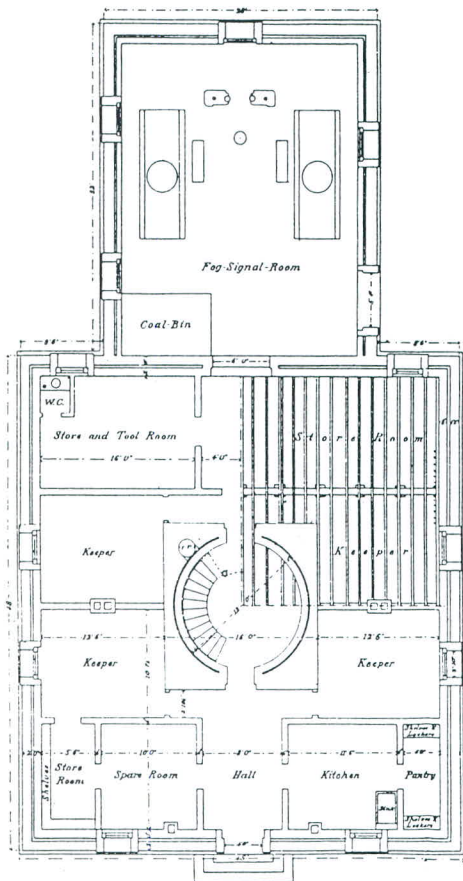
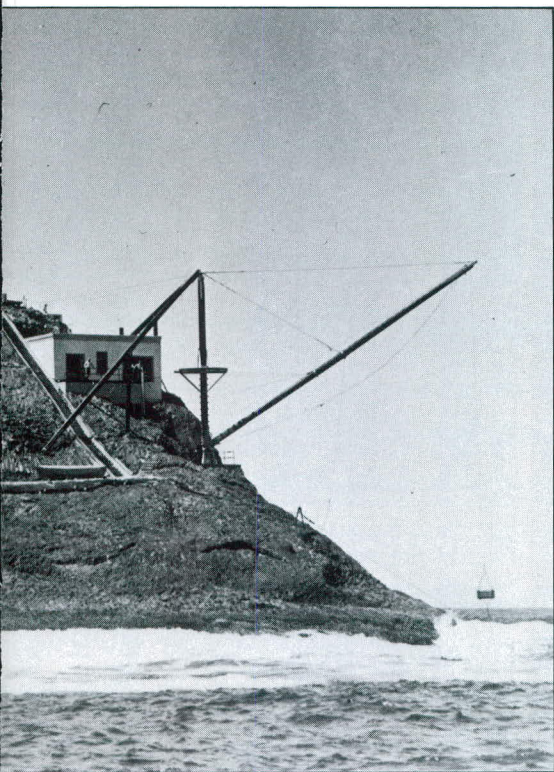




Above—Tillamook Rock from the west on a rare calm day. Right—Tillamook Lighthouse from the East Southeast with boom extended and holding the personnel "crate." Note the boom house. Oregon Historical Society photographs.



Above—Tillamook Rock from the north with a pulling boat in the surf line about to receive cargo or, perhaps, a keeper about to go on shore leave. Oregon Historical Society photo.



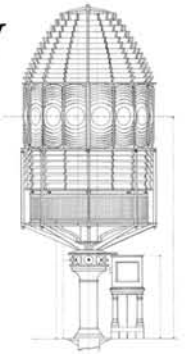
Tillamook Floor Plan

TABULATED STATEMENT OF THE COST OF CONSTRUCTION OF THE STATION

Addressing	\$	36.13
Blocks, 2, metallic, at \$15 each		30.00
Blocks, 99, assorted		394.41
Boilers, 2, steel		3,550.00
Brick, 96,664, contracted at \$12 per M (delivered at Astoria)	\$	1,159.96
Brick, 15,000, open market, at \$6.50 per M (delivered at Portland)		97.50
Canvas, 884 1/2 yards, protection of materials, men, & c		290.58
Casks, water, 62		162.75
Casks, water, 1, for hoisting salt water		28.25
Cages, iron, 2, for landing working men on rock		191.00
Candles, 100 pounds, at 16 cents per pound		16.00
Caps, powder, 800		9.50
Cement, 441 barrels, average price per barrel \$4.73		2,086.80
Chain, 15,567 1/2 pounds, for mooring buoys and guys		944.33
Chimney tops, with rods and braces		66.00
Coal, 56,494 pounds, fuel of Corwin, landing men, and supplies		282.47
Coal, 92,006 pounds, fuel for men and blacksmith shop		518.64
Conductors for gutters		45.20
Derrick, 1 large boom, for landing materials, &c		2,028.55
Derrick, 1 large boom, for hoisting materials from landing to top of rock		667.50
Derricks, 4, for setting stone, at \$79 each		316.00
Doors, wooden, 26		3,012.05
Engine, hoisting, 1, and repairs on same		177.60
Engine, hoisting, 1		978.40
Engine, hoisting, 1		1,800.00
Flags, signal, with code, 1 set		29.00
Forges, portable, 2, at \$30 each		60.00
Fuse, for blasting		37.35
Glasses, marine, 1		15.00
Grate bars, 28		54.00
Hardware, assorted		759.96
Iron, assorted, 9,636 pounds		860.77
Iron, galvanized, 4,352 pounds		694.80
Iron tank, 1, capacity 500 gallons, for fresh water		30.00
Iron ladder, 1		11.00
Iron stairs, railing, tramway, and car		1,426.24
Iron swing bridge		1,650.00
Labor, rock reduction		10,718.00
Labor, construction, already paid		23,167.75
Labor, construction for July and August, estimated		7,000.00
Lantern and iron work (contract)		40,885.75
Laths, 12,000, at \$2.50 per M		8,200.00
Lead, scrap, 2, 192 1/2 pounds		30.00
Lime, 200 barrels, at \$1.45 per barrel		111.02
Lightning rod, 1		290.00
Lumber, 84,048 feet		105.60
Nails, 2,960 pounds		1,259.57
Paints, oils, &c		163.30
Plaster, 3 barrels, at \$5 per barrel		347.40
Plumbing materials		15.00
Powder, black, 1,650 pounds, at 14 and 15 cents per pound		132.11
Powder, giant, 300 pounds, at 29 cents per pound		257.00
Powder, dynamite, 81 1/4 pounds, at 40 cents per pound		87.00
Powder, vulcan, 300 pounds, at 45 cents per pound		32.50
Ropes, for hawsers and derricks		135.00
Sacks for coal and sand, 806		511.50
Sand, 2,635 cubic feet		1,606.96
Scale, Fairbanks, 1		100.35
Shutters, iron, 16 pairs, at \$22 per pair		207.59
Shutters, iron, 8 single, at \$8 each		45.90
Sirens, steam, 2		416.00
Solder, 200 pounds, at 25 cents per pound		5,140.00
Spars, 6		50.00
Steel, 1,860 1/2 pounds, for drills, bars, &c		21.60
Stove, cooking, 1		346.72
Stone, first-class ashlar, 5,914 1/2 cubic feet, at \$1.60 per cubic foot		49.85
Stone, second-class ashlar, 2,880 cubic feet, at \$1.25 per cubic foot		9,463.20
Steam tenders:		3,600.00
Mary Taylor, from November 19, 1879, to June 28, 1880		10,660.00
Geo. Harley, from June 16, 1880, to January 31, 1881		8,771.51
Emily Stephens, July, August, and September, 1880		5,760.00
Astoria steam-tugs, 20 trips, at \$60 each		1,200.00
Telegrams		26,391.51
Tools and implements		99.05
Transportation of materials other than from Astoria to the rock		790.23
Traveling expenses		918.88
Tube expander, 1		277.62
Tubs, ballast, 3, at \$22.50		45.00
Water-closet and connections		67.50
Wharfage and storage		25.00
Windows, wooden, glazed, 20		353.07
Total amount of expenditures		45.85
		\$123,492.82



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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
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415-362-7255*

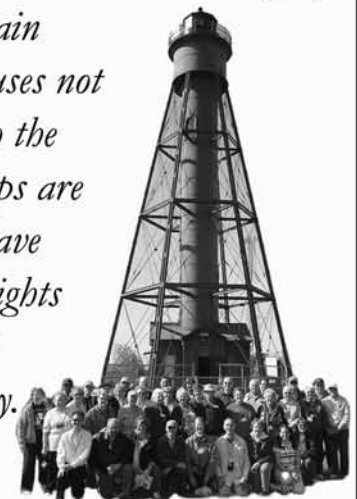
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Education



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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.



Tincum Lighthouse, NJ