Goodbye to the *Princess*

Sailing past the *Lynx* during the 2008 Stars’l, the *Princess Taiping* was rammed and sunk within hours of completing her trans-Pacific Voyage. See Page 6.

**U.S.S. Dolphin Arrives!**

April 29th saw the arrival of the *U.S.S. Dolphin* to the MMSD. Although highly anticipated for some time, the coordinating of moving such a vessel kept her in limbo indefinitely. Due to other circumstances, however, the Port of San Diego facilitated the delivery of the diesel submarine.

With tugs alongside at 6 a.m. on an overcast Wednesday, the *Dolphin* began her journey to her new home. With work continuing on the separator, she was temporarily moored alongside *Car Float No. 7* (see inside story). The separator is a platform that will keep the *Dolphin* safely away from the hull of the Berkeley and serve as pedestrian access to the *Dolphin*.

The *Dolphin* was sporting her new entry and exit ways, required for visitor access. Cutting through a hull designed to attain record depths proved no easy task.

No sooner had *Dolphin* arrived than email job lists were distributed with crucial elements of her on the list. Cleaning the exterior, primarily the Conning tower and hull scraping, were among the initial tasks. Currently, *Dolphin* does show the effects

(Continued on Page 2)

**On The ‘Tween Deck…**

*Californian* Visits the San Diego Yacht Club

*Marine Steam Aboard Berkeley and Medea*

*Princess Taiping Sunk!*

*MMSD’s Lost Schooner*

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"In issuing this number of our bantling to the *Euterpe* public, we assure our friends that our pages will ever be open to open and fair criticism whether of ourselves, our friends or of those few who do not come within the latter category." - Stead Ellis, 1879
On April 29th, the diesel powered research submarine U.S.S. Dolphin made her new home at the MMSD.

Of weathering, but will in time, be scraped, repainted and ready for visitors.

The *Dolphin* now joins the *B-39* submarine and *Car Float No. 7* as requiring continuing scraping of algae from the waterline.

Divers have been working thoroughly on removing pylon guides from the *Dolphin* separator. Once complete and cleaned up itself, the separator can be moved into place.

While the month of May initiates the integration of the *Dolphin* as a permanently moored exhibit for the MMSD, May also marks the 7th anniversary of her near fire and flooding disaster of 2002. Although refitted after the fire, the tragedy seems to have instigated the path to museum ship.

After a multi-million dollar, 3 and a half year repair, the *Dolphin* continued on duty until mid-2006. With annual budget costs of more than 18 million dollars, the decision to decommission her became a reality on September 22nd 2006.

As a submarine, launched as recently as 1969, there are plenty of crewmen still surviving to fill the museum with endless stories and recollections. The arrival of *Dolphin* has generated a lot of excitement among alumni groups. Some are anticipating becoming members and docents due to the *Dolphin*.

Hoping to docent, David Guettler notes, “*U.S.S. Dolphin* was unique and I signed up to be part of i’s crew twice, so this is a natural transition for me.” David was on board the *Dolphin* during the 2002 accident, as “that close brush of death makes me feel forever part of *U.S.S. Dolphin*.”

Launched on June 8th, she was commissioned two months later on August 17th, 1968, the *Dolphin*’s home port remained San Diego through her 38 year operational life. As a research submarine, the *Dolphin* routinely was a test platform for new naval equipment and established a list of first time records in submarine history.

By the time she was decommissioned on September 22nd, 2006, with two 425hp GM/Detroit Diesel V71 two-stroke, supercharged diesel 12-cylinder engines, the *Dolphin* had been the last diesel powered submarine in the U.S. Navy.

Currently, as the MMSD prepares the *Dolphin* to be open to the public, an anticipated opening date remains in the near future.

~ Brad Holderman, MMSD Volunteer, editor.
The Floating Barge: An Identity at Last?

Bearing the mark of Moore Dry Dock Co., 1929, this mooring bit gives clues to the identity of the floating barge.

In the previous issue, it was noted that the Floating Barge was believed to have been built by Union Iron Works, the same firm that built the Berkeley. With the publication of that statement, staff produced a recently discovered correction to the belief.

With the amount of work occurring on the barge, a mooring bit revealed a maker's mark and date, Moore Drydock Co, 1929 was clearly visible.

The Moore drydock company was a repair and shipbuilding company located in Oakland. Its origins began in San Francisco in 1905. Known then as the Moore & Scott Iron Works, the yard was destroyed in the earthquake of 1906.

Relocating to Oakland, Scott was bought out and by 1922, the firm was called Moore Dry Dock Company, operating primarily as a ship repair facility.

In the difficult times of racial tension and inequality, Moore Dry Dock is remembered as an employer of several thousand African-Americans, skilled and unskilled.

Further inquiry revealed a list of vessels launched by Moore Dry Dock Company. In 1929, only one Car Float was built for the Santa Fe Railroad, Car Float No.7. One railroad car float was built in 1928, and one in 1930, but this suggests that the MMSD floating barge may now have an identity in Car Float No.7.

Moore Dry Dock is also noted as the builder of the San Diego, for the San Diego and Coronado Ferry system. The San Diego was recently noted as an imperiled, perhaps finished hulk

beached near Sacramento.

Expanding during the World War II years, the subsequent period saw a rapid decline and the yard was closed in 1961.

With a rough identification of the floating barge, it can be certain that not only does the barge serve its purpose in expanding the museum's office, exhibit and mooring capabilities, but expands the historic ship collection itself.

~ Brad Holderman, MMSD Volunteer, editor.

Three Generations

From left to right are Pierce Clifford, Clive Harrison and Clifford Harrison. Pierce joined the crew late last year and has assisted Gary on the electrical repair team. More recently Pierce has been attending the Square-rigger 101 classes. Pierce will be eighty years old in June 2010.
**HMS Surprise Dry Dock Cancelled**

It was announced that the scheduled dry docking of *HMS Surprise* has been postponed until 2010. Originally, this year's dry-dock was anticipated to precede an out-of-area voyage to Santa Barbara. With that even cancelled and *Star of India*'s scheduled dry dock in July, it was decided that *HMS Surprise* could wait until her next regularly scheduled dry dock next year.

Still, with the down-rigging of her yards and mizzen mast, the maintenance crew is taking the opportunity to refurbish the hardware and rigging, including her notorious footropes. When *Surprise* is re-rigged and ready for sail by November, she will be a much improved vessel and source of additional pride for the MMSD.

~ Brad Holderman, MMSD Volunteer, editor.

**Update: Falls of Clyde**

"There have been a lot of developments with the *Falls of Clyde* as the Friends of *Falls of Clyde* continue to plot a course towards drydocking.

The FoFOC has been given free berthing rights at her current location at Pier 7 by the Harbors Division. The berth space ensures that *Falls of Clyde* will have a home to return to following drydocking.

Several partnerships are on the table in support of the ship's restoration. The FoFOC have applied to the Atherton Foundation for funds supporting the drydocking. An additional request was made of Aloha Petroleum, the descendent company of Associated Petroleum one of the *Falls of Clyde*'s final owners. A more significant partnership with Hawaii Maoli, a native Hawaiian organization encompassing Hawaiian cultural and educational projects. The partnership may lead to purchasing the Hawaii Maritime Center, establishing a support base and museum for the *Falls of Clyde*.

The FoFOC has also been testifying on behalf of the resolution SCR 138, SD1 making the *Falls of Clyde* a treasure of the state of Hawaii. The new resolution, SR 91, SD1, is entitled "Requesting The State To Recognize The Historical Significance Of The Falls Of Clyde As A Sailing Symbol Of Hawaii."

On deck, inventory of the remaining artifacts on the *Falls of Clyde* continues on. A dedicated group of volunteers is currently coming together in efforts to ensure the *Falls of Clyde*'s survival.

Susan Yamamoto of the FoFOC, states that the organization would like to return the *Falls of Clyde* to sailing status similar to the *Star of India*. The goal certainly presents a monumental task, but the history of the MMSD certainly proves that such an endeavor can be managed."

~ Brad Holderman, MMSD Volunteer, editor.

**Tops’l Appeal Continues**

As was reported in the previous issue of the Euterpe Times, the *Star of India* is in need of a new Main Lower Tops’l. Currently, funds specified for the main lower top stands at only $1,310.00. The estimated cost of a new tops’l is $10,129.00.

For those willing to donate to a new tops’l, please specify the intent with your donation.

**Marinisms**

*Mr. Weigelt’s Maritime Dictionary*

**ORLOP**, (fau-pont, Fr. over loop, Du.) the lower but temporary deck in a ship of war, whereon the cables are usually coiled, the sails deposited, and the several officers' store-rooms contained. Small ships have a kind of platform in midships, which is also called the orlop, and is chiefly for the use of the cables.

**Father’s Day Celebration**

Do something extremely different!

Make this Father's Day especially memorable and set sail on the incredible yacht, *America*

**Saturday, June 20th or Sunday, June 21st**

Take him out for a sail on a replica of the 139-foot yacht (*AMEERICA*) that won the historic race that became the America's Cup. Get involved: help the crew sail the America as she navigates around the bay. (Don't forget your camera!)

[CLICK HERE](#) for more information.

~ Brad Holderman, MMSD Volunteer, editor.
SAIL WITH US TO CATALINA ISLAND WATERS

Set sail to the beautiful waters surrounding Catalina Island aboard the schooner *California*. Each voyage offers a unique perspective on seamanship, maritime history and the awesome beauty of the Pacific.

Sailing aboard the *California* offers an opportunity to step into the past and experience the romance of tall ship sailing. Our friendly and experienced crew will be happy to share their knowledge with you. As an active member of the guest crew you will take your turn standing watch, hauling lines, manning the helm-perhaps even going aloft.

May 22nd - May 25th*
Memorial Day Weekend
4 days 3 nights
$575.00 per person

July 24th - July 26th*
3 days 2 nights
$475.00 per person

September 4th - September 7th*
Labor Day Weekend
4 days 3 nights
$575.00 per person

More information can be found by a [CLICK HERE](#)
For information and reservations call:
619-234-9153 ext. 101
Or [CLICK HERE](#) to send us an email

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**Princess Taiping rammed by unknown vessel**

*Courtesy of the China Post, April 27th, 2009*

TAIPEI, Taiwan -- “We all but made it,” Nelson Liu bemoaned yesterday.

He skippered his Ming war junk *Princess Taiping* through an unprecedented trans-Pacific voyage, which came to an abrupt end only a stone's throw away from its destination at 2:40 a.m.

An unidentified freighter rammed the replica of a three-masted Chinese war junk, cutting it into two halves off Suao, a fishing port on northeastern Taiwan.

The *Princess Taiping* was expected to berth at Keelung this morning after a 14,000-mile voyage across the Pacific in ten months.

The wreckage of the *Princess Taiping* off Suao. An unknown freighter rammed into the replica of a three-masted Ming war junk early yesterday morning.

Liu and his 10-member crew, thrown into the seas in the hit-and-run accident at the 11th hour of their ambitious record-making voyage, were saved by Taiwan's air force and coast guard rescue team.

With head and leg injuries, Liu was helped aboard a National Coast Guard Administration cutter three hours after the Hong Kong-registered *Princess Taiping* was hit in the middle of night.

“We had earned 99 marks (out of 100),” said 62-year-old Liu, resting at the Veterans General Hospital at Suao where he was taken after the cutter docked at 10:00 am where he was later released.

“It's a pity that we couldn't earn the last one mark,” Liu lamented. “No word can describe how sorry I am.”

The skipper was asleep when a crew member woke him up and warned of an unknown freighter coming too close to the *Princess Taiping*. 

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**2009 Annual Conference**

"Ports, Forts and Sports: Maritime Economy, Defense and Recreation through Time and across Space“

13-17 May 2009

Hosted by
The North American Society for Oceanic History,
Steamship Historical Society of America,
National Maritime Historical Society and the California Maritime Academy, CSU

Go to [www.sshsa.org](http://www.sshsa.org) for details.
“I contacted the freighter by radio,” Liu went on. “We talked in English and I was told to keep my ship to the starboard side of the freighter,” he added.

Liu obeyed. Two minutes later, however, the freighter split his vessel.

“The only identification I have of the freighter is its christened name, Champion Express,” Liu recalled.

The Coast Guard confirmed the Champion Express was off Suao. But it did not stop to look for those thrown overboard, they said.

“As a matter of fact,” a coast guard lieutenant said, “the Champion Express, which was heading north, stopped only a few minutes, and then continued to sail northwards.”

Alerted by the call for help from the Princess Taiping, the air force search and rescue center dispatched helicopters, which located the shipwreck at 5:16 a.m.

Masao Kinjo, a Japanese crew member, was rescued first. The other nine — including Elizabeth Zeiger, John Hunter and Hugh Morrow of the United States — were lifted off the seas less than half an hour later.

Jason Arnold, Larz Stewart, William Cook Thomas, Jack L. Durham and Yoji Mori formed the rest of the crew.

Adrift in the sea for more than three hours, all crew members suffered hypothermia or subnormal body temperature. Two of them had minor injuries. They were taken to the Military Hospital at Songshan and the Armed Forces General Hospital at Neihu for treatment.

All crew members save Thomas were released after treatment.

Launched at Amoy or Xiamen in January last year, the Princess Taiping, which was 45 feet wide at the beam, was an exact copy of a war junk of Koxinga's navy.

Koxinga, a loyal general of the Ming Dynasty (1369-1644), drove the Dutch out of Taiwan and claimed the island for China in 1572. He tried in vain to restore Ming rule to China, overrun by the Manchu, who set up China's last imperial dynasty.

War junks of Koxinga fought and defeated the much better-equipped Dutch fleet in 1671 and his Chinese troops landed successfully to besiege Zeelandia, present-day Anping near Tainan.

Last June 26, the Princess Taiping, which means Peace in Chinese, left Keelung on the trans-Pacific voyage. Captain Liu, a yachtsman, was the first Taiwan mariner to accomplish a round-the-world voyage by yacht in 2001. It took 877 days to make the record.

After crossing the ocean, the handcrafted junk was supposed to end up in Vancouver after a 69-day motor-less voyage from Japan. But a tropical storm drove it to Eureka, California, instead. It then sailed to San Francisco on October 14.

Then the Princess Taiping crossed the Pacific again to reach Saipan, where American crew members and Angela Chao, a writer and painter from Johannesburg, South Africa, were interviewed.

Chao had every faith in the skipper. “Scared,” Chao said, “No, our captain is very reliable. He has sailed around the world. He's very experienced.”

Zeiger, a newly graduated agriculture student from the University of Hawaii, said she would never forget her “lifetime experience.”

Hunter said it felt like they were cast members of the famed reality TV show, “Survivor,” while Monroe pointed out he and his shipmates want “to preserve Chinese shipping culture and create awareness about Chinese sailing history.”

From Saipan, the ship sailed for Naha. The mishap occurred on its way back to Taiwan from Okinawa. They tried, and almost succeeded.

The Princess Taiping was also a replica of one of the great Chinese war junks Zheng He, the eunuch admiral under the third Ming emperor, led to pacify all Southeast Asia, and reached as far as North Africa.

At the time of Zheng He, China had the world's most powerful navy.

Additional News footage Courtesy of comcast.com
Remembering the *Princess Taiping*

On November 11th and 12th of 2008, the annual Stars’I was joined by the visiting Chinese junk on her historic voyage.

Crew, staff and additional parties have been terribly sympathetic to the disaster.

**Moored at Car Float No. 7, the Princess Taiping was a welcomed guest in November 2008.**

After being blown off course by a tropical storm, the *Princess Taiping* first touched the West Coast at Eureka, California. “My friend …mailed me two newspaper articles, one on the voyage itself and one on the American man who had made the trip, Hugh Morrow,” states crewmember Darla Schaeffer.

“I gazed at the photo and thought about the courage it took to make such a long journey in such a small vessel. What an adventure!”

Angela Chao and Nelson Liu, skipper of the Princess Taiping, meet with museum director Ray Ashley.

and the tea wonderful.”

Some crew of the *Princess Taiping* were invited aboard HMS *Surprise* for the sail. “These men were simple, poor fishermen back in China, Hugh told me, and this was the adventure of a lifetime for them. Most of their friends and family would never see anything outside of their own village and surrounds. I began to have a deeper appreciation for their willingness to risk their lives to do this unique, important voyage,” says Darla.

**Darla Schaeffer shares a moment with an American crewmen of the Princess Taiping, Hugh Morrow.**

Darla continues, “After the sail and party, I walked out to the barge with a friend to see the junk for myself. The captain came up and talked to us at length. He was very gracious. We were allowed to look around the junk and I tried to imagine being at sea for 69 days on that tiny, rickety-looking (though obviously seaworthy) vessel. I remember that the head was in a little enclosure. Hugh told me that on the coldest nights, the deck watch crew would huddle together inside the head enclosure to try to get a little warmth.”

“Angela came up from the cramped sleeping quarters below, greeting me like an old friend and showing me that she was wearing the ponytail holders I had given her around her wrist.

**Angela Chao shares a traditional tea ceremony with volunteer crewmembers Stan Williams and David Litzau.**

“I couldn’t wait to get aboard once I saw the Princess Taiping tied up at the museum. When the crew invited me aboard, I found the design and craftsmanship awesome.” recalls crewmen David Litzau. Invited aboard by the *Princess Taiping’s* crew for tea, David “felt a bit out of place clumping around in boots, climbing harness and tools, but they were most gracious hosts
Princess Taiping (cont)

She asked me to write the whole story about my friend in Eureka in her guest book. I asked her if she was afraid, crossing the ocean on that ship. She said no, she wasn't scared. She thought if something happened, it happened. She would face it then. Otherwise, no point in worrying. I was humbled by this tiny young woman who has so much more courage than I can ever claim.”

“Hugh came on board and asked me to wait. While on Surprise, I had expressed my admiration of his speaking Chinese, a language I find very difficult. He went below and came back with a battered book called "Beginner's Chinese". He said this was the book he had learned from, and he gave it to me. I protested that this was too kind, and he said, "I already speak Chinese. I don't need it anymore." So I accepted this wonderful gift, this well-used, grubby, dog-eared book that has been around the world, imbued with adventure, a book that has lived a far more exciting life than I.”

“Angela insisted on giving her sweater to my friend, as it was chilly outside. We thanked them for their time and generosity, and the captain insisted on walking us all the way out to the street.”

The shock of the sinking of the Princess Taiping has reverberated from the China Seas back to San Diego. Based on these experiences, many people were saddened by the event.

Recalling the visit of the Princess Taiping, San Diego Union-Tribune journalist Anne Maclachlan commented, “The crew members were all warm and engaging - each bringing something strong and unique to the group - and very dedicated to their mission. Their courage was impressive. It was easy to envision the waves washing over her decks as the crew recollected a recent frigid storm they had endured, yet upon arriving in San Diego, not one of them gave it all up for a ticket home. I'm not sure that most people really grasped what they were in the process of achieving, and I was deeply disappointed on their behalf at the way it came to an end.”

David Litzau adds, “I’m glad to hear that all are safe. The fact that a modern vessel cut the last 20 miles off of their 14,000 takes nothing away from your right to claim “we did it”. You circumnavigated a vast portion of the Pacific…well done.”

For Darla Schaeffer, “I was left with a deep respect and fondness for the junk and her wonderful crew. It's heartbreaking to hear about the trauma at the end of their voyage, and the loss of the junk. I am so very thankful that the crew all survived. I'm sure their journey will become legend in their village and that they have made their families so very proud. It was a privilege to spend time with them. Perhaps one day, I'll see them again and thanks to Hugh's generosity, I'll be able to greet them in Chinese.”

~ Brad Holderman, MMSD Volunteer, editor.
The classic Islander 44 *Shine On*, the Marconi cutter rigged staysail schooner is framed on San Diego Bay during April. Campaigning regularly in the America's Schooner Cup Race in San Diego, *Shine On* has won the event twice. According to Bart Ziegler, *Shine On*, "no longer moons the *Californian*.”

**Family Day**

*May 17, 2009*

**Kids, 12 and under, are free all day**

Hey Moms, Dads, and kids! Check out what lives in a drop of San Diego Bay water! We’ve got the microscope and the video screen - you won't believe your eyes. Then, you can make your own plankton design and take it with you. The kids craft activity will be available from 11 a.m. to 3 p.m.

Children 12 and under are admitted free and families can sign up for a Bay Cruise on San Diego Bay aboard the museum’s historic 1914 harbor *Pilot* boat for only an additional $3.00 per person.

You take up to a 2 hour Bay Cruise on San Diego Bay. It's a great way to spend some family time together as well as experience San Diego's Big Bay!

[CLICK HERE](#) for more information.

**Free China (cont)**

The New York Yacht club accepted the application. A year later, the Free China entered San Francisco Bay.

Reported on in the February issue of the Euterpe Times (Volume 4, Number 37, the deadline for the destruction of the *Free China* is May 31st of 2009.

Dione Chen, whose father was a crewmember of the *Free China* adds, “Despite our efforts, we have not been able to secure a home for her and the May 31 deadline given us by the boatyard…Documenting the junk is a priority for May.”

“I would still like to hope that the junk can be saved, but it will take a stroke of great fortune. It is sad indeed to know that both of these two rare vessels may be lost forever this year.”

~ Brad Holderman, MMSD Volunteer, editor.
2009 Sailing Expedition into California’s History

June 16th – June 27th 2009
This is an exceptional sailing experience of discovery and history that few will embrace.

Journey with us as we set sail to some of the most beautiful places along California’s coast- Santa Barbara, Channel Islands National Park, Catalina Island, as well as remote San Nicholas Island, and San Clemente Island aboard the schooner Californian.

This voyage on the tallship Californian will attempt to retrace the 1542 voyage of Juan Rodriguez Cabrillo in his flagship San Salvador as she explored what was then the furthest reaches of the known (to Europeans) world. Situated just a few miles off the California coastline, the California Channel Islands are none the less considered among the most remote and naturally pristine islands anywhere, in many ways unchanged since the time they were first sighted by European sailors from Cabrillo’s ships four and a half centuries ago. They are also among the oldest known portions of North America to be inhabited, possibly beginning with prehistoric seafarers crossing by water from Asia or Oceania long before the Aleutian “land bridge” created during the last ice age made an all land route from Asia possible. Despite their status as the ancient pathway to immigration and discovery, only one hundred and five people are known to have visited all eight Channel Islands (far fewer than the North or South Poles or Mount Everest), making this a truly memorable expedition grade adventure.

Sailing aboard the Californian offers an opportunity to step into the past and experience the romance of tall ship sailing. If we are successful in putting our shore parties on every island, the names of our ship’s company will become members of the “All Eight Club” registry maintained by the Santa Cruz Island Foundation.

More information can be found by a CLICK HERE
If you would like to get aboard call us at 619- 234-9153 ext. 101 or CLICK HERE to send us an email.

Malcolm Swall and Aimee Kay look on as Chari Wessel is dressed to kill for Spike TV’s filming aboard Californian.

The day started with a muster before dawn 0630 of the first day of daylight savings. After much standing around, filling out of releases and getting rigged out with costumes, we finally got down to the Californian.

In addition to the sail crew, there were actors, extras, prop guys, costume and makeup types, directors, assistants. We spent a few hours tied to the camel whilst taping various scenes of boarding and de-boarding - pirates climbing off and on.

While the focus was mostly on the lead actor types, a portion of the crowd was sail crew, and some got in quite a bit of sword play and musket firing. After a bit, we finally got under way and headed out to sea.

We spent the bulk of the day on several mile long reaches southward and northward - a nice westerly breeze, and a light sea. There was two cameras shooting simultaneously on different parts of the deck. Much black powder expended - in addition to the Californian’s 6 pounders, there were many muskets and...
Sunset Cruise

Daily Departures from May 2nd to September 27th, 2009

Sailing Time: 5:00 p.m. and 8:00 p.m.

Check-in: 9:00 a.m. until 4:30 p.m. at Museum Information booth.

Boarding at: 4:30 p.m.

Location: Maritime Museum of San Diego (1492 Harbor Dr., San Diego, CA 92101)

Board the beautiful yacht America and indulge in a relaxing sail as the sun sinks slowly in the west.

The America will cast off from the Maritime Museum of San Diego and sail off into the sunset each evening until September 27th (weather & mechanical circumstances permitting).

We will provide: soft drinks, water, nice snacks, a sail on America, and entrance to the Maritime Museum. (There will be a no host bar on board so that guests may buy adult beverages if desired.)

You should bring: jacket (it will cool off when the sun sets), a camera (you never know what wildlife you might see and then there's always the sunset), binoculars, etc. If you think you might get seasick, please take medication before boarding the vessel.

Tickets: $85.00 per adult and $40.00 per child (12 and under)

ON LINE BOOKING/TICKETING: CLICK HERE

INFORMATION AND TICKETING: 1-858-922-3522

Paul Kay, Lynne Eddy and Brian Richardson enjoy a break between takes.

pistols being discharged. There was even a big "mortar" noise maker. A smoke maker was in use quite a bit. At one point the smoke maker actually caught an oily rag on fire, but it was quickly tossed overboard - no real threat, but quite exciting on a wooden ship.

At one point there was simulated damage from gunfire - splinters and burnt cork were tossed about, fake blood was applied to "wounded". As we transited back into the harbor, we doused sail, and crew was sent forward to furl the head sails. Just as we completed, and were catching our breath before laying back to the deck, one of the directors motioned us to get down in order to get out of the shot.

A rare and special treat to layout on the hammock netting while the ship cruised down the bay right at sundown. By the time we put the boat to bed, dis-embarked our guests and their not-insconsiderable dunnage, the sun had set and the crew headed over to the E&C for some well deserved pints.

~ Malcolm Swall, MMSD Volunteer

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~ Malcolm Swall, MMSD Volunteer

Accompanied by other extras, Brain Richardson takes aim on an approaching enemy while Scott Baldwin readies a great gun.
San Diego Yacht Club Opens Its Season
With A Big Bang!

On April 19th, the Californian makes for an imposing presence at the opening of the San Diego Yacht Club’s 2009 season.

The Californian was invited to take part in the opening day ceremonies at the SDYC on April 19th. If you’ve been fortunate enough to be at the SDYC’s opening day party, then you’ll understand why some of us immediately volunteered to be a part of the event! Beautiful boats to tour, wonderful people to meet who love boating, yummy bratwurst, and the chance to show off the Californian to appreciative folks; what’s not to love?

We started with our normal public day sail on Saturday, the 18th, and once we had disembarked our passengers, Dr. Ashley came aboard to take the helm, and we were off for the transit to the SDYC.Docking required backing down the length of the SDYC’s basin and a couple of push boats, but was masterfully accomplished. We then secured the Californian for the night.

The next day, early arrivals spruced up the Californian and our gunners, Chari & Scott, made up their charges and loaded the guns, which were all run out on the port side. The opening ceremonies began and, at a prearranged signal, the Californian saluted the SDYC with a rolling broadside! I’ve been told that this broadside was heard ALL OVER the waterfront; one of the museum volunteers said that he heard the blast on the barge! After that, it was open house for the Californian and we started to receive a lot of guests onboard. The weather couldn’t have been nicer and the wind was really blowing; a perfect day for the Jr. Sailors who competed in various races in the basin for our entertainment and for a fund-raiser for their program. The afternoon was spent visiting with people, having a couple of the wonderful brats, showing off the Californian, and admiring other people’s boats. What a great way to spend the day! Once the event closed down, we brought the Californian back home to the museum and had some pizza provided for us by Dr. Ashley. It was a great day!

Rare Bird Sighting at SDYC

It’s not often that San Diegans see a bird from New Zealand (well, actually a boat), but the members of the SD Yacht Club (SDYC) and crew from the Californian had a sighting of the Kiwi after delivery of the Californian to the SDYC on April 18th.

Anyone who knows Malcolm knows that he manages to make even the simplest task a fun one. So when volunteers were asked to help take the Californian to SDYC for their opening day ceremonies on Easter, he immediately started thinking about ways to make it even more fun and interesting. This led him to offer to bring the family boat, the Kiwi, a 39’ Cavalier Aux Sloop, over to ferry the crew of the Californian back to the Maritime Museum. Arrangements were made, permissions granted for docking and undocking, and the game was on!

After the Californian was secure at the SDYC, Malcolm, John, & Aimee (Kiwi crew) were ferried over to the Kona Kai Marina via push boat (thank you Scott!) to pick up Kiwi. Then we motored back to SDYC, docked, picked up our passengers, and headed out for the transit back to the Maritime Museum. The transit was relaxed and filled with good conversation, and Kyle got to drive the boat pretty much the entire way back! Docking on the camelback next to the barge went well, and after a group photo, goodbyes were said to those disembarking while the Kiwi’s crew took her back home and put her to bed. It sure was a fun way to end a wonderful day of sailing!

~ Aimee Kay, MMSD Volunteer.

Kyle Radwanski takes the helm of Kiwi as crew John Wallace, Malcolm Swall, Joe Radwanski, Paul Kay and Scott Baldwin enjoy the transit.
Marine Steam Engineering Basics Part II
For Touring the Steam Ships Berkeley and Medea
By
John Forester, M.S., P.E.

The Berkeley's Steam Plant

Boilers

The four boilers are not the original boilers, which were two coal-burning Scotch fire-tube boilers, such as were installed in the Titanic fourteen years after the Berkeley was built. The present boilers are oil-burning Babcock and Wilcox cross-type straight-tube water-tube boilers, a typical installation for merchant ships and industrial plants of the time, probably 1926. Some say the boilers were replaced in 1924.

Fire-tube boilers have a large barrel containing the boiling water and steam, with tubes running from end to end through which the fire and combustion products flow to heat the water. Water-tube boilers are the opposite. Their tubes are full of water and steam and are heated by the fire on their outsides as they run through the firebox.

The Berkeley's boilers delivered steam at 165 pounds per square inch gauge pressure, or 180 psi absolute, which was superheated a further 50 degrees to 425 degrees F. Some say that the new boilers were run at the 2000 psig for which they were rated.

Steam Drums

Across the top of each boiler is the horizontal steam drum, called that because it was about half full of water with the rest filled with steam, and from which the steam was taken. It was very important to keep the right amount of water in each boiler. Too much water, and you got water into the engine. Too little water, and the water tubes in the firebox would run dry, get overheated, and burst. You can see the glass tubes of the two water gauges for each boiler, and the three emergency water cocks for use if you can’t see the glass gauges. If the water is at the correct level, you should get water out of the lower cock, steam out of the upper one, and mixed water and steam out of the middle one. You can also see the steam pressure gauges, which the fireman used as guides to regulate the amount of fuel being burned.

Firebox and Water Tubes

Looking into the firebox through its side opening, you see that the space above the fire is roofed by the sloping water tubes. The flames of the fire, and its hot gases, flow between and around the many layers of tubes that are above the fire. If you look into the side cleaning doors, you will see the many layers of tubes above the firebox. The tubes are sloped so that as the water boils into steam, the bubbles rise up the slope, making the water circulate throughout the boiler, from the drum, down the downcomers, up the sloping tubes as some of the water boils into steam, up the risers, and back to the steam drum, where the steam bubbles free out of the water and into the steam pipes and the water is returned for another circuit.

Downcomers and Risers

Riveted and forged into holes along the length of the steam drum are the many hollow forged steel downcomers, each with a zigzag shape. The outer face of each downcomer has many square holes, each closed by a steel plate. Through some opened square holes you can see the ends of the water tubes, four per square hole, whose ends are expanded, steam-tight, into the inner sides of the downcomers. The water came down the hollow downcomers to enter the water tubes, which crossed the firebox. On the other side of the firebox are risers, made just like the downcomers, from the top of which the mixture of water and steam returned, through large cross tubes, to the steam drum at the top of the boiler.

You can see the oil burners below the downcomers, giving off red light and a roaring sound, just as if oil were being burned today.

Superheater Tubes

At the start I told you that whenever steam and water are together in a container, for each temperature there is one pressure. Raise the temperature, and more steam is made and the pressure goes up. Lower the pressure, say by using some steam in an engine, and some of the water boils into steam until the temperature is reduced to that appropriate to the pressure. I also told you that heat engines get more efficient if the high temperature can be raised.

That’s what a superheater does. When the steam leaves the steam drum, it is no longer in contact with water, but is just a plain gas, just like air. The steam from the steam drum goes through
Marine Steam (cont)

Engine

The Berkeley’s engine is a three-cylinder, triple-expansion, vertical, double-acting engine. Triple-expansion means that the steam passes through the high-pressure, intermediate-pressure, and low-pressure cylinders in turn, each one larger than the one before but using steam at lower pressure and lower temperature. Vertical means that the cylinders are above the crankshaft, typical for both steam and diesel marine propeller installations.

Paddlewheel engines were often two-cylinder horizontal, for sternwheelers and for Mississippi sidewheelers with separate engines for each independent sidewheel, or inclined, for sidewheelers with a single paddleshaft, or single-cylinder with the cylinder at the bottom, for sidewheelers with walking beam engines. Double-acting means that the cylinders are closed at both top and bottom, so that the steam can push the piston both down and up, in contrast to the automobile engine in which the pistons can push only downward. These characteristics make the steam piston engine more complicated than a typical car engine.

Cylinders, Piston Rods, Connecting Rods, Crankshaft

Before you is the crankshaft with its three crank throws, one for each cylinder, equally spaced at 120 degrees of rotation. Each throw has its connecting rod going up to the crosshead guide. Because the cylinders are closed at both top and bottom, the connecting rod cannot go directly to the piston. The piston rod extends from the bottom of the cylinder, coming out through a steam-tight hole in the cylinder head, and is kept moving straight by the crosshead and its guide. The crosshead guide is that portion of the frame of the engine that is machined straight with the cylinder bore so the crosshead must move straight up and down in line with the cylinder. The connecting rod then connects this crosshead to the crankshaft.

Cylinders: High Pressure, Intermediate Pressure, and Low Pressure

The cylinders all have 36” stroke, but their diameters are different, as are their initial steam pressures: 22” dia @ 180 psia and 425°F; 34” dia @ 68 psia and 300°F; and 56” dia @ 27 psia and 244°F. The expansion ratio of the steam in each of the last two cylinders is easily calculated as the ratio of its volume to the volume of the one before. The expansion in the HP cylinder depends on the degree of cutoff of the high-pressure valve, which is probably about 40%, giving an expansion ratio of 2.5. The total expansion ratio of the whole engine is the product of each of the expansion ratios, or about 15 times. In going through the engine, the steam is expanded to about 15 times its initial volume, thus getting the maximum practical work out of it, according to the technology of the time.

Two of Berkeley’s four boilers. Located above, the boilers Steam Drum.

Another set of tubes that run across the top of the firebox above the water tubes. They can’t be right in the fire, or, with no water in them, they would get red hot, weaken and burst. However, above the water tubes the combustion gases are just hot enough to heat the steam to a temperature that is still safe but makes the engine more efficient. That superheated steam can be expanded further in the cylinders of the engine before it starts condensing into water.

Steam Pipe

The big asbestos-covered pipe carries the steam from the boilers to the engine room. Each boiler has its own stop valve, so that any boiler can be shut down without shutting down the others. Somewhere up there, too, are the safety valves that would let steam escape up the relief pipe next to the stack if either boiler got too hot with too much pressure. The steam pipe makes the U-bends that you see above so that when it expands from room temperature as the hot steam enters it, it can flex a bit instead of trying to push the ship apart and breaking in the process.

Throttle Valve

Now we are in the engine room. The first thing the steam reaches is the throttle valve that controls the amount of steam reaching the engine from the boilers. There it is, up at the top where the steam pipe reaches the engine. The throttle valve is operated by this long rod here, from the throttle-valve lever that is at the engineer’s station.
You probably think of steam as an airy nothing, not weighing much at all. Well, it isn’t. Since the capacity of the high-pressure cylinder is 7.9 cu. ft. and the cutoff is at about 40% of the stroke, with steam at boiler pressure, this cylinder will admit about 1.25 pounds of steam per stroke. At 2 strokes per revolution and 125 rpm, that is 9.4 tons of steam per hour. Nine tons of steam per hour is what it took to push the Berkeley along at 14 knots, all boiled from 9 tons of water in the boilers, used in the engine, condensed back into water in the condenser, and finally pumped back into the boilers.

**Engine Horsepower**

The traditional way to measure the power of a reciprocating engine was to measure the pressure of the steam during each part of the stroke. For triple-expansion engines such as those on the Berkeley, this must be done for each cylinder and the results added. This measures the exact power of the steam provided in the engine, but does not account for the power that is absorbed by the engine in moving its own parts. The indicator produces a diagram that looks like a low boot or high shoe. The back of the shoe shows the increase in pressure when the steam is admitted. The level top of the diagram shows the continued pressure as the piston moves while the steam valve is still admitting steam. The curved sloping toe of the shoe shows the decrease in pressure as the steam expands after the steam supply is cut off. The tip of the toe shows the drop in pressure as the steam is exhausted, while the sole of the shoe shows the pressure during exhaust (condenser pressure or, in a multiple expansion engine, the pressure going to the next cylinder in the sequence). The area of the diagram indicates the power of each stroke of the piston.

The Berkeley’s engine tested at 1,163 IHP (indicated horsepower) at 122.5 rpm. This gives 16 pounds of steam per indicated horsepower hour, which is about average for the time, design, and boiler pressure and temperature.

<table>
<thead>
<tr>
<th>Cylinder</th>
<th>Initial Pressure, psia</th>
<th>Initial Temp. °F</th>
<th>Diameter, inches</th>
<th>Capacity, cu. ft.</th>
<th>Expansion Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>180</td>
<td>425</td>
<td>22</td>
<td>7.92</td>
<td>2.4</td>
</tr>
<tr>
<td>IP</td>
<td>68</td>
<td>300</td>
<td>34</td>
<td>18.9</td>
<td>2.4</td>
</tr>
<tr>
<td>LP</td>
<td>27</td>
<td>244</td>
<td>56</td>
<td>51.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Exh</td>
<td>9</td>
<td>188</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Table 2:**

Below deck, the valve gears are demonstrated at 6 rpms.

**Valves: High Pressure, Intermediate Pressure, Low Pressure**

Each cylinder has its own steam-control valve, which admits higher-pressure steam to one end of the cylinder while allowing the lower-pressure steam to escape from the other end of the cylinder. When you looked down on the top of the engine from the main deck, you saw the three circular cylinder heads with, also, a smaller circular cover and two larger rectangular covers. The small circular cover encloses the piston-like valve of the high-pressure cylinder, while the rectangular covers enclose the flat slide valves of the other two cylinders.

Each slide valve operates inside a steam chest, a rectangular cavity which is filled with steam at high pressure. Each slide valve is like a flat, rectangular box with its open side pressed against the machined flat face of the cylinder casting. The valve is pressed against the cylinder face by the difference in pressure between the steam that surrounds it and the exhaust steam that is inside it. The cylinder face has three long, horizontal, narrow ports cast into it. The upper and lower ports connect to the top and bottom of the cylinder. The center port leads to a passage that goes out the side of the cylinder casting as the exhaust. When the valve moves down, it uncovers the upper cylinder port to let steam in to the top of the cylinder to push the piston down, while it connects the lower cylinder port to the exhaust port, to let the steam in the bottom of the cylinder out to exhaust. The top and bottom lips of the valve are designed with particular widths,
so that the steam is allowed in and out at the points in the piston stroke desired by the designer.

The higher the pressure of the steam, the harder the valve is pressed against the port face and the more power it takes to move it. Therefore, when steam pressures increased, the flat slide valve was replaced by the piston valve for at least the high-pressure cylinder, as in the Berkeley. The piston valve is a circular piston with an hour-glass shape, in which the steam pressures pressing inward from each end balance each other, as does the exhaust pressure from the center outward toward each end. (Some piston valves had steam at the ends, others had the steam in the center, but they were balanced either way.)

Originally a development in locomotive design, the Stephenson link is a critical element of the Berkeley's triple expansion steam engine.

Valve Gear

Each valve is moved up and down by an eccentric and eccentric rod. You can see these eccentrics in pairs beside each crankshaft throw. Each eccentric is a circular disc mounted on the crankshaft, but mounted off-center (hence the name: eccentric). Therefore, as the crankshaft rotates, the eccentric appears to move up and down. Because each eccentric is circular, it can turn within the strap that surrounds it, thus pushing and pulling the eccentric rod up and down as the crankshaft turns. This up and down motion of the eccentric rod, which works like a connecting rod, is passed to the valve rod to drive the valve up and down. The eccentric is set a little more than 90 degrees ahead of the motion of the piston, so that the valve moves down to open the top end of the cylinder to steam when the piston is at the top of its stroke, ready to apply power in the new direction. At the same time, other part of the valve opens the other end of the cylinder to exhaust, letting the used steam leave the cylinder.

Now, remember what I said about using the steam expansively and how that made the engine more efficient? The valve is so made that it closes to steam when the piston has moved only partway through its stroke. Therefore, for the rest of the stroke, while the steam keeps pushing on the piston, its pressure and temperature fall. In fact, after the expansion in the high-pressure cylinder, the steam has cooled enough, because of the work that it has done on the high-pressure piston, that part of it has condensed into water in the form of fog.

Reversing Valve Gear

As I just said, and as you can see, each cylinder has a pair of eccentrics, not just one, to operate its valve. One eccentric is positioned on the crankshaft for ahead rotation, the other for astern rotation. The two eccentric rods are connected to the opposite ends of the curved link that you see above you, and the block that runs in the slot of the link is the lower end of the valve operating rod. When that link is moved to one side, only one eccentric rod moves the valve, say in the timing required for going ahead, while when the link is moved to the other side, the other eccentric rod moves the valve, for movement in the opposite direction.

This link, called the Stephenson link because it was first designed in his locomotive design office, has another advantage. As the link is moved a little way from one end of its travel, both eccentrics contribute to the motion of the valve. This changes the cutoff, the position of the piston at which the valve stops supplying steam to the cylinder. This changes the amount that the steam will expand in the cylinder for the rest of the stroke. Changing this isn’t particularly important for ships, which usually run at full design speed for most of their voyages, but for locomotives, which require enormous pulling force to start a train or to pull it up a grade, but which require much less force to keep the train rolling on the level, the variable cutoff allowed the use of long cutoff and much steam, although inefficiently, for starting the train, but short cutoff, using less steam but using it more efficiently, for just rolling along. If the same pressure drop were obtained by partially closing the throttle valve, most of the energy already put into the steam would be lost and the engine would operate very inefficiently.

The link is curved to a circle with the same radius as the length of the eccentric rods, so that moving the link does not, of itself, change the position of the valve.

Bypass valves

As I said, high-pressure steam from the boilers goes only to the valve of the high-pressure cylinder. That’s fine when the engine is running; the steam has to wait in the steam pipe until the high-pressure valve opens to one end or the other of the cylinder. However, it is different when the engine is stopped and you want to start it. Remember what I said about using the steam expansively; the valve may be closed for both ends of the cylinder. Then you can’t start the engine because no cylinder can receive steam. To start the engine, you may have to admit steam to the other cylinders, just until the engine starts moving. Well, one of the valves will be open to steam, if it could get steam. Up at the side of the cylinders are small steam pipes running from the throttle valve through small valves marked Bypass Valves to the valve chests of the intermediate- and low-pressure cylinders.

When the engineer needs to start the engine, and it won’t start just by opening the throttle valve, he can open either of these bypass valves to let a little steam into the valve chests of the other cylinders just to get the engine moving. Once it is turning, he then closes the bypass valves to stop wasting high-pressure
steam in the low-pressure cylinders.

**Power Reverse Gear**

The Stephenson links of the valve gears of all the cylinders are all shifted together, by the link rods, cranks, and wayshaft that connect them. For the Berkeley, this would have to be done for every crossing of San Francisco Bay. Working this by hand would be hard work, and slow. Therefore, this shaft is rotated by the power reverse cylinder. The steam to this cylinder is controlled by a small valve worked by the engineer through the lever that has detent stops marked Ahead and Astern for the power reverse valve positions that make the power reverse piston go up or down.

**Cylinder Drains**

Also up alongside the cylinders you will see the other small valves marked Cylinder Drains, which are worked by long shafts from the engineer’s position. Consider starting the engine from cold. When steam enters the cold engine, much more of the steam will condense until the valve chests, valves, cylinders and pistons heat up to the temperature of the steam. That will make a lot of water in the cylinders. If, when the piston approached the end of its stroke, the space remaining was filled with water instead of steam, the piston would hit the water just as hard if it had hit the cylinder head directly. That would cause great damage to the engine. Therefore, each cylinder is fitted with these drain cocks at each end, to let the water out as it forms, until the engine gets up to working temperature.

When you see movies of steam locomotives starting out, you often see bursts of steam blowing sideways from the cylinders. It looks spectacular, and sometimes is done just for show, but its real purpose is to blow the condensed water out of the cylinders until they get to operating temperature, just like the cylinder drains on the Berkeley’s engine.

**Condenser**

The low-pressure steam escapes from the low-pressure cylinder through the condenser trunk into the condenser, which is a large chamber that is cast as part of the frame of the engine. You can see the large rectangular condenser trunk extending downward from near the low-pressure cylinder. Compare this with the small steam pipe (much smaller than the insulation that encloses it), and you will have an idea of how much the steam expands when going through the engine. It expands about 13 times.

The condenser is the reverse of the boiler. Remember that the boiler takes water and passes it through tubes that are heated by the fire until it turns into steam. The condenser is a similar chamber through which a nest of tubes pass. However, these tubes convey the cooling water, while the exhaust steam fills the chamber. The condenser consists of three chambers, the center of which, and much the largest, is the vacuum chamber into which the exhaust steam flows. At each end of the condenser is a separate water chamber, closed by the cover that you see. These two water chambers are connected by many tubes that go straight through the main condenser chamber. Cold seawater is sucked in from overside by a circulating pump, passed into one water chamber, through the tubes, where the water picks up heat by condensing the steam that surrounds the tubes, is collected in the other water chamber, and then returns overside through the cooling water outlet.

**Condensate (Air) Pump**

Remember the discussion about steam at the beginning? Steam can exist at room temperature if the pressure is low enough, in a partial vacuum. If the engine is able to use very low-pressure, low-temperature steam, it will be more efficient. The condenser exposes the used steam to tubes cooled by cold seawater. Therefore, the pressure can be very low and the engine most efficient. However, the condenser will eventually fill up with water that is condensed from the steam (and with the small amount of air that was originally dissolved in the boiler feed water). Therefore, the condenser is emptied by the Condensate Pump. This is also called the Air Pump, because it removes both the condensed water and the air that accumulates with it. Because the water has a much smaller volume than the steam from the boiler, the condensate pump can be much smaller than the engine itself.

The condensate pump is a vertical pump with a single steam cylinder and two water cylinders. One water cylinder is driven directly by the steam cylinder, the other is driven by a rocking beam pivoted so that as one water piston descends, the other
ascends. The steam valve is actuated by the motion of the rocking beam, so that when the piston moves down the valve is also moved down, ready to admit steam to the bottom of the cylinder to drive the piston up again. You can guess how much water comes from the condenser by the sizes of the pipes that connect the condenser, the condensate pump, and the hot well.

Circulating Pump

The condenser must be continually cooled by a flow of cold seawater through its tubes. This water is pumped through the condenser and back overside by this centrifugal circulating pump. This circulates a lot of water, as you can guess by the sizes of the pipes that connect it to the condenser and overside. A centrifugal pump works something like a propeller, in which a rotating, bladed wheel spins the water in a circle, and hence increases its pressure so that it moves through the pipes. Centrifugal pumps are best at moving much water at low pressure, as used here for the condenser, and work at relatively high speed. This one is driven by a single-cylinder steam engine whose valve is operated by a single eccentric (because it is never reversed). There is also a second circulating pump of the cross-compound type.

Cross-compound Pumps

A cross-compound pump consists of two pumps in one frame. Each pump has a steam cylinder that directly drives its pump cylinder. The reason that there are two pumps built into one frame is that pump #1 drives the valve for pump #2, and vice versa. You can see the valve linkage above the piston rods. Therefore, when pump #1 makes a stroke to end A, it shifts the valve that causes the steam to drive pump #2 to end B. As pump #2 reaches end B, it shifts the valve for pump #1, making it return to end B. The valve linkages are set up so that pump #1 always causes pump #2 to go to the same end as pump #1, while pump #2 always causes pump #1 to go to the opposite end as pump #2 is.

You will see many pumps of this design in the Berkeley’s engine room. Cross-compound pumps are not particularly efficient, because they admit steam to the cylinder for the full length of the stroke, instead of using the steam expansively, but they are convenient when small amounts of fluid must be pumped. Cross-compound pumps are used for bilge water removal, fresh water service, lubricating oil, fuel oil (in the boiler room), and the fire pump (in the engine room casing on the main deck).

Hot Well

The condensed water from the condenser goes from the condensate pump into these rectangular tanks, named the hot well. That is, they act as the well that supplies the boiler with water, and the water is warm, not quite cold. When in use, the tanks of the hot well were filled with loofas, a kind of vegetable sponge that is the skeleton of a particularly fibrous vegetable squash. Remember, to lubricate the engine’s valves and pistons, oil was pumped into the steam just as it entered the engine. That oil comes out with the condensed water, but it should not be pumped back into the boilers. The loofa sponges absorbed the oil and were wrung out and replaced as they filled with oil.

Feed Pumps

The boiler water is used over and over again, for two reasons. At sea, there is no natural source of fresh water, and salt water ruins boilers.

In the early days of steam at sea, they did use seawater in the boilers, but the salt built up inside as the water boiled off. This required both frequent blowing down of the boiler to remove the over-salted water, and frequent shutdown for boiler cleaning. It also limited steam pressures and temperatures to inefficient levels. In those days, the condenser did not keep the steam separated from the cooling water, but just injected the cooling seawater into the condenser chamber. Even where fresh water was available on shore, as for steam locomotives, the railroad system engineer had to be careful to site his water tanks where “boiler quality” water, free of sediment and dissolved minerals, was available. Once used, the water is of boiler quality, being distilled water. So even though the Berkeley had sources of fresh water on each side of the Bay, she used the water from the hot well over and over again, with only enough new water to replace that which was lost by leakage to the atmosphere.

That condensed water has to be pumped back into the boiler against the pressure of the steam in the boiler. There are two boiler pumps, because the boiler fires must be put out and the ship must stop if no boiler pump is working. The main boiler-feed pump is a single-cylinder, direct drive pump with the steam cylinder above the water cylinder, with the water valve chambers prominently in view. The valves inside are just flappers that fall over a grating. As the pump piston drives, the water is pumped out through the grating, lifting the flapper. When the pump piston goes in the opposite direction, the flapper falls suddenly onto the grating, preventing the water from returning. This sudden closing causes strong pressure pulses, water hammering, in the discharge pipe. On the discharge side there is a tall copper bell, that is kept full of air to act as a spring that smooths out the bumps in the water pressure as the water valves open and close.

The auxiliary boiler-feed pump is of the cross-compound design.

Thrust Blocks

Connected to each end of the main engine’s crankshaft are the propeller shafts to the propellers at each end of the ship. Each propeller will be pushing or pulling the ship along. That means that there must be a connection between each propeller and the hull of the ship, to transmit the force that moves the ship. Since the shaft must be rotating for the propellers to develop thrust, this connection must be a thrust bearing of some type. Since the engine’s crankshaft should not be designed to take end thrust, at each end of the engine room, where the shaft leaves that compartment, there is a thrust block to take the thrust, in whichever direction, of the propeller to which it is connected.
Each thrust block consists of three collars rigidly mounted on the shaft, and on each side of each collar are two thrust rings that are fixed to the hull. These are all enclosed and run in a bath of oil, with oil pipes to supply fresh oil. As the shaft turns and pushes in one direction, its collars push up against the rings, which absorb the thrust while allowing the shaft to turn.

Each thrust block has three collars because only a single collar would scrape against its ring under the full thrust of the propeller. This is because, although the collars are continually supplied with oil, the oil is not forced between the collars and the rings. There is sufficient frictional loss that the thrust bearings must be cooled by water, delivered and returned through the pipes connected to each bearing. This was the original type of thrust block, and as ships increased in size and power, they became increasingly unreliable, liable to run hot and scrape metal to metal. This difficulty was later corrected by the invention of the fluid thrust bearing by Michell and by Kingsbury, but several years too late for installation in the Berkeley.

The Michell/Kingsbury bearing used only one collar. However, the ring was divided into six or eight segments, called slippers, which were mounted on a fixed ring. Each slipper presented a flat face against the shaft’s collar, and a slightly curved face against the fixed ring, so it could rock a little in the direction that allowed the leading edge to lift away from the shaft’s collar just a small amount. As the shaft turned, it picked up oil from the bath below. That oil was squeezed between the collar and the slipper, lifting the edge of the slipper so that the slipper was gliding on a wedge of oil under pressure. Of course, the oil was squeezed out at the inner and outer edges of the slipper, but with oil of the proper consistency, and enough rotational speed of the shaft, that movement was so slow that the slipper still floated for its entire length on the wedge of oil. There was no metal-to-metal contact, just metal to oil to metal again. Isn’t that a wonderful idea? As it happens, that mechanism, squeezing the oil into a wedge inside the bearing, is the same mechanism that allows the cylindrical bearings of your car’s engine to run for thousands of miles with little wear. Michell and Kingsbury, independently, were inventive enough to work out how to apply the same principle to a flat thrust bearing.

**Auxiliary Machinery**

**Lubricating Pumps and System**

The engine is served by a lubricating pump that supplies oil through pipes to the engine’s steam supply and to its major bearings. The pump is a horizontal cross-compound pump, and you can see the oil piping on many parts of the engine.

**Fire and Bilge Pumps**

The fire and bilge pumps are also cross-compound pumps, with rather large water cylinders to supply large quantities of water at little pressure without using excessive steam.

**Cabin Heating Fan**

The cabin is supplied with warm air driven by this large fan, rather a new idea at the time. Because this fan would be run most of the time on cold San Francisco Bay, its engine was designed to be efficient. It is a compound, or double-expansion, engine, with two cylinders controlled by a single valve driven by one eccentric.

**Generators**

The Berkeley was supplied with electricity from two steam-powered generators. The original installation didn’t work very well, and was replaced after a few years. That is probably why the main generator, in the engine room, is driven by a steam turbine instead of a steam reciprocating engine as is all the other auxiliary equipment. The steam turbine gives a smooth, vibration-free rotation with very little to go wrong with it, and packs much power into small space and weight. This one on the Berkeley is the first sign of times to come, when nearly all the horsepower produced by steam engines comes from turbines instead of reciprocating engines.

General Electric was taking no chances with the future when it put the nameplate on the generator’s turbine in 1907. The nameplate says that the turbine is licensed for all uses except as a prime mover for marine or aviation uses. If you wanted to power your plane with a steam turbine like that one, you would have to pay a higher license fee. Well, GE didn’t start making aircraft turbines until more than 35 years later, and then they were gas turbines, not steam ones.

The auxiliary generator is inside the engine-room casing on the main deck, driven by a single-cylinder steam engine.
Board the *Star of India* and experience a fun, unique movie venue.

Pick a date, grab a jacket, take a blanket to snuggle up in, and get ready to be entertained by this grand old lady (the *Star of India*) in a way unlike any other. Her projection sail raised, her decks set up for your comfort, her staff and volunteers ready to help her put on the show; the *Star of India* invites you to her 15th Movies Before The Mast Film Festival.

Friday nights are Date Nights. Bring a date, win prizes and snuggle under the stars as you watch:

- **July 10th**  *The Perfect Storm* (rated PG-13)
- **August 14th**  *Deep Blue Sea* (rated R)

Saturday nights are Family Nights. It’s a fun night for the whole family. Come a little early, explore the ship, join in the pre-movie activities and win prizes, and then watch:

- **July 11th**  *Sinbad: Legend of the Seven Seas* (rated PG)
- **August 15th**  *The Sea Gypsies* (rated G)

**Ticket Prices**

- Adults: $13, Children (12 and under): $8
- Adult Members*: $11, Member's Children* (12 and under): $6

**Show Times**

Box office opens at 6:30 p.m., Gates open at 7:00 p.m. Movies begin at 8:00 p.m.

There are NO REFUNDS or EXCHANGES so please select carefully.

*Member's must show their membership ID at the box office when they check in.

**Celestial Navigation 101**

Fresh from her acting roles, crewman Chari Wessel takes the opportunity to trains with a sextant aboard *Californian*. 

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**Excursion Rates**

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<th>For Students and Their Friends</th>
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See McGee for further particulars.

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*We would like to thank Anthony’s for their continued participation and support.*

Go to [www.sdmaritime.org](http://www.sdmaritime.org) for details.*
In July of 1939, a fleet of California state law enforcement officials, under the direction of state Attorney General Earl Warren, crossed San Monica bay and descended on the floating casinos Rex, Tango and Texas. As Warren directed the operations from shore, the Texas and Tango surrendered to authorities with no resistance. Things were different aboard the Rex, as the authorities upon boarding the Rex were repulsed by high pressure water hoses.

The floating casino Rex.

As the Rex's massive steel entrance gate slammed shut, her owner Tony Cornero was hear to shout, "I will not give up the ship!" After ten days, the waterborne standoff ended in a whimper. The Battle of Santa Monica Bay had ended.

The Texas would survive and continue on as a fishing barge. For the Tango and Rex, it would seem their careers had finally come to an end.

Very quickly, with the onset of World War II, a new life appeared for the Rex and Tango. With major portions of Europe now locked in battle or simply blockaded from maritime commerce, shipping was at a premium and along with it rates and profit rose. As Barber notes, "A strong market for Pacific Coast lumber developed in South Africa after the normal supply from Finland and northern Europe was cut off by U-boat activities."

The Tango was purchased in the summer of 1941, her gambling houses were torn off and she was re-fitted as a six-masted bald-headed schooner. By 1942, her restoration was complete. She was towed to the Columbia River, loaded with lumber and disembarked on a historic journey recounted in the book, Tango Around the Horn, by journalist Lawrence Barber.

The story was nearly identical for the Rex. Purchased by Frank Hollenthal and Charles Lockwood, she was re-rigged as a six-master schooner in Newport Beach. Her decks once again shadowed from canvas, the previously four-masted square-rigged ship, also shed her unofficial name Rex. The Star of Scotland was reborn.

In 1887, the first observance of Groundhog Day in Punxsutawney, Pennsylvania, occurred, Anne Sullivan began instruction with Helen Keller, and earmuffs were patented. In 1887, Buffalo Bill's Wild West Show opened in London and a clash between police with pro-Irish independence protesters would go down in history as Bloody Sunday. In 1887, Emile Berliner patented the gramophone, and Charles Nordhoff, Boris Karloff and Georgia O'Keefe were born.

The Star of Scotland was launched at the shipyard of J. Reid and Co. at Pt. Glasgow, Scotland in March of 1887. Constructed for the Waverley Line of Williamson, Milligan and Co., Liverpool, she was christened the Kenilworth. The four-masted full-rigged ship Kenilworth's steel hull measured 300 feet 8 inches, 43 feet 1 inch abeam and 24 feet 2 inches depth of hold.

On October 6th 1887, the Kenilworth under the command of Capt. Francis McNear docked at the Beale Street Wharf in San Francisco for the first time. Her first cargo would exemplify her existence of a maritime hauler. Laden with saddlery hardware, anvils, crucibles, chinaware, basket ware, caustic soda, tinplates, bricks, toys, pig iron, salt, jute yarn, pianos, and more, the variety of goods spoke of the diverse requirements of an ever-growing metropolis.

By mid-November she was departing, but her first voyage was indicative of her life. She would quickly prove herself a fast sailor. San Francisco would always be a frequent destination for the four-masted steel ship. In the next two years, she would find herself in various ports of the Pacific. As frequent as San Francisco would be as a destination, so would fire be the bane of her existence.

On August 26th 1889 while loading wheat at George McNear's grain warehouse at Port Costa, a fire broke out in the warehouse. Along with the Kenilworth, several other ships and 50 to 50 freight cars were in danger of burning from the rapidly spreading blaze:

The Kenilworth let go her lines, and would have drifted away in safety had she not fouled the Honauwar. The latter was already burning, and her main mast fell across the Kenilworth, preventing all hope of escape. The burning ships lay in this position until 7 o'clock, when the river steamer San Joaquin No. 4 towed them out in the stream. They were then separated. The Honauwar is now lying in the stream, burned nearly to the water's edge. The Kenilworth being an iron ship, will not be a total loss, but her cargo, deck, cabin and all wood work were destroyed. She had on board 3000 tons of wheat, Valued at about $75,000, and loading was to have been finished yesterday. The Langdale got away from the docks and was anchored safely in mid-stream, when the burning Honauwar and Kenilworth drifted on to her, and she too had a narrow escape from destruction.

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By November she was condemned and was sold to pay expenses. Her crew was paid off, but several lawsuits ensued from the fire. Purchased by Alfred Sewell of Bath, Maine, through an act of Congress, the former British vessel would gain American registry. Repaired at Union Iron Works, she gained a new master, Capt. James G. Baker.

By the following April, in 1890, freshly restored, American and "presents the same beautiful proportions as when she sailed in this port on her maiden voyage, three years ago," she was again loading wheat at Port Costa. Bound for Liverpool, she made a fast passage of 101 days with 3,811 tons of wheat. English bound runs of wheat would typify the Kenilworth’s Atlantic cargo for the closing years of the century. Return trips routinely found her stopping at various ports along the eastern seaboard including New York and Philadelphia.

In 1894, the personality of Capt. Baker began to reveal itself in an incident off of Cape Delaware in the Atlantic. On June 15th, while in port, Capt. Baker was arrested on charges of deserting a ship in distress. Citing a collision with the schooner Flora E. Sawyer, "which was run down by the Kenilworth off Cape Delaware May 19 last," Capt. Baker was arrested under a statute passed in 1890.

Capt. Baker was the first captain ever arrested under the statute. After the collision, the Kenilworth continued on her way, the crew of the Flora E. Sawyer set fire to her. "The captain said he continued his course because he knew that the hulls of the vessels not having touched, the Sawyer was not in immediate danger. The captain said that, on examination of his ship, he found her only damage to be a few slight scratches on the port side. He was positive that the hull of the schooner could not have been damaged much." Crew of the Sawyer appeared to corroborate this account.

Adding in additional lawsuits, Capt. Baker, "declared that no assistance was wanted, and that there was a conspiracy to burn the Sawyer and to hold the owners of the Kenilworth responsible."

However, on July 1st, a decision was made against Capt. Baker. Fined $1000.00, his decision to carry on made Capt. Baker a precedent in maritime history. By August, the incident behind them, the Kenilworth set sail for San Francisco.

By 1898, the Kenilworth had become a veteran of the Cape Horn passage, continuing to make fast runs. When she arrived in San Francisco in February, "Captain Baker says if he gets anything of a show he will bring her here in 100 days or less." Capt. Baker would never get the chance again.

After departing San Francisco, she arrived at Hilo, Hawaii to take on a cargo of sugar for New York. Bound for the Horn, on July 8th, a fire was discovered in the cargo. Burning out of control, Capt. Baker put in for Valparaiso.
At midnight the second officer went to the captain's cabin and was horrified to find the master of the ship dead. He had been suffocated to death. All the doors had been closed on account of the cold weather, and the gases from the burning cargo had gathered in the after cabin and caused death. The first mate was also found suffocated, and the body of the ship's boy, who was sleeping in the cabin, his own room having been destroyed by fire, was found close to that of the mate. A passenger named G. E. Thrum was found in a very critical state, but was got on deck and he finally recovered.

The *Kenilworth* was brought into Valparaiso under her second mate, Victor H. Genereaux. Genereaux would receive accolades for his bringing the ship in under fire, convincing a called tug boat that nothing was out of the ordinary.

The cause of the fire may have been intentional. As Genereaux recounts, "Even after we left Hilo for New York, some of them called going into the lazarette 'going into the basement' and going on deck 'going upstairs.' They tried several times to desert, but were returned to the ship by the police and I believe that out of revenge they fired the *Kenilworth.*" On docking in Valparaiso, Genereaux added that the entire crew deserted.

Upon the news reaching New York, Captain Murphy was given command of the *Kenilworth* completing the voyage to New York.

Once repaired and back onto regular runs, she would be under the command of Capt William Taylor. Taylor, was a classic sea Captain, accustomed to taking his entire family along on voyages.

Departing Philadelphia in May, 1900, the *Kenilworth* would encounter an atypical hard trial around the Horn. The ship encountered the normal hardship of "bitterly cold and the ropes froze in the blocks and the water in the pipes. The water in the tanks was caked with ice and in some instances frozen solid. Besides this a driving sleet struck the men in the face while they were at work and some of them narrowly escaped being frost-bitten."

Unique to this Horn passage, fire from the sky. Captain Taylor, states as a meteor bore down on the *Kenilworth*, "for a few moments I thought we would be struck. I could hear the whizz of the lump of molten matter as it came through the air and I guess the bulk of my men were on their knees when it struck the water. To tell you the truth, I was a little bit shaky about the knees myself. That meteor struck the water about nine feet of the starboard bow and as the water sizzled up a big sigh came up from my lungs. It was the narrowest escape I have ever had in twenty-five years of sea life."

In 1906, she gained a new commander, Captain Amosbury. The following year, 1907, after putting into Montevideo for repairs to her rigging and steering gear, she put into Rio de Janeiro under distress. The voyage of 1907 would proved to be the hardest and longest of her life. After departing Philadelphia on August 15th, 1906, she would finally arrive on November 30th, 1907. 1908 would mark her final year as a general cargo vessel with Arthur Sewell.

On November 25th 1908, through Bates and Chaseborough of San Francisco, the *Kenilworth* became an Alaska Packer. The Alaska Packers’ Association had spent the decade purchasing veteran windjammers to bolster an ever increasing fleet of ships bound for the Bristol Bay region of Alaska. Specializing in the profitable salmon fishing of Alaskan waters, the APA had begun purchasing ships as early as 1893. By 1901, they had begun to assemble iron and steel-hulled vessels of moderate size, mostly aging Cape Horners. However, as Huycke reminds us, "This was not a fleet of outcasts, comprised of vessels in their last agony; nor were they bought at scrapping prices and run on a shoestring."

Having originally purchased the vessels *Star of Russia, Star of France* and the *Star of Italy*, in 1906, the APA began renaming the ships of their fleet with the surname "Star of..." Through an act of Congress, by 1909 the Kenilworth was renamed the *Star of Scotland*.

~ Brad Holderman, MMSD Volunteer, editor.

(Continued Next Month)
Located next to the main information booth, the bowsprit of the four-masted schooner *Forester* remains a testament to the heyday of sail.

It is commonly used as a seat for tourists lining up for the Californian's public daysails. It commonly acts as a barrier to the edge of the Embarcadero, a thankful rescue for parents of inattentive children. On permanent display near the Information and Ticket booth, the wooden bowsprit of a forgotten era silently adds to the tale normally told by the *Star of India* and the steam ferry *Berkeley*.

In 1968, the vacationing Capt. Ken Reynard of the Maritime Museum of San Diego traveled north to San Francisco and the marshy area off Martinez. Here, Capt. Reynard reached his destination, the ghostly echo of the once prolific Pacific Coast timber trade. Just off shore was the hull of a wooden four-masted lumber schooner named the *Forester*.

Capt. Reynard secured a deal with the owner-occupant of the *Forester* for notable sections and artifacts of the schooner. Returning with a sizable group of tools and people, Capt. Reynard retrieved the "name-planks from stern and bows (they were incised right into the hull) as well as her bowsprit, trailboards and other items..."

Built Hay & Wright in Alameda in 1900 for her owner Martin Saunders, the *Forester* made her debut at the Main Street Wharf on December 3rd, 1900. Constructed for the Australian timber trade, the four-masted *Forester* was 184 feet long, 38 feet 6 inches abeam and 13 feet 6 inches in depth. She was capable of carrying 900,000 square feet of lumber.

For more than 30 years, the *Forester* carried lumber to ports in China, Japan, India, Australia, South Sea Islands and on rare occasion, South America. Departing San Francisco, stopovers to load for lumber in the Pacific Northwest would carry her far into the Pacific. Return voyages typically found her laden with copra, tropical hardwoods, coal and general merchandise, entering the busy port of San Francisco.

Commonly, she could also be seen in the busy ports of Redondo, San Pedro and other southern Californian ports.

In 1910, she would even find herself in support of the Alaskan fishing canneries. Arriving in Astoria Oregon on February 28th, "after a'10 days' passage. When it came up to the mouth of the river the wind was blowing at a rate officially reported as 72 miles per hour. The weather was very thick and it was impossible to get any bearings, but its master had the choice of going on the beach or making a try to come in, so in he came. The *Forester* has been docked at the Hammond mill and is under charter to the Columbia River packers' association to load lumber and material for its new cannery in Alaska."

The confidence shown in the *Forester* by her master was more than just bravado. Through her life, she had only one master. Captain Otto A. Daeweritz, a native of Czechoslovakia. Along with two partners, he helped design the schooner, held an investment in her through her entire life.

In 1927, Capt. Daeweritz seems to have experienced plans to change not only the existence of the *Forester*, but a personal one as well. Buying out his partners, assuming complete ownership
With the death of Capt. Daeweritz in 1947, Charles (Charlie) J. Fitzgerald "assumed command" of the *Forester*. Moving in in 1948, he purchased the schooner outright for $90.00. The life was not one of bizarre isolation, Fitzgerald was aware of the value of the schooner from a historical perspective. Defending the schooner from deterioration and vandals, he did as much as one man could for 12 more years.

Copied of the *Forester*, he moved the *Forester* to the Carquinez Bridge. Under construction, the *Forester* would be tied to the bridge as a breakwater until 1931.

Between 1931 to 1932, Capt. Daeweritz continued to live aboard the schooner with his faithful bulldog, Texas, as she was anchored in the Oakland Estuary. In 1932, Capt. Daeweritz moved her to the Martinez tidelands, which in time would be her final resting place.

By 1968, when Capt. Reynard of the MMSD arrived, the *Forester* was a mastless hull accessible from a maze of catwalks.

In 1962, the first institution to attempt any salvage of the *Forester* came by way of the San Francisco Maritime National Historical Park. Collecting artifacts from the one of the last wooden lumber schooners only spoke of the future fate and steady decline of the schooner’s hull.

By 1968 when Ken Reynard and other representatives of the Maritime Museum of San Diego arrived, the *Forester* was mastless and accessible through a maze of flimsy catwalks.

The recovered artifacts were eventually prominently displayed on the ‘tween deck of the *Star of India*. Over the decades, with revolving exhibits, the bulk of the collection is now in storage. The bowsprit along the Embarcadero remains as the most significant artifact on display.

From a trivia standpoint, the navigation lights of the Forester are on continual display at the foot of the companionway aboard Star of India as the stairway lands on the ‘tween deck.

In addition to the artifacts recovered by both the MMSD and the San Francisco Maritime National Historical Park, the deck of the *Forester* was salvaged and installed as the dance floor of the Tonga Room in the Fairmont Hotel, located in Nob Hill district of San Francisco.

Surprisingly, endless decay and neglect did not form the final chapter for the *Forester*. On June 18, 1975, vandals set fire to the schooner, burning it to the waterline. The life of one of the last Pacific lumber schooners ended in a sudden, tragic flash.
Burned to the waterline by vandals in 1975, the Forester continues to serve a purpose to local wildlife.

Today, the Martinez Regional Shoreline is a part of the East Bay Regional Park District. Located within it, the remains of the Forester now serves as a marsh habitat and a reminder of the busy maritime history of the Pacific Coast.

~ Brad Holderman, MMSD Volunteer, editor.

REFERENCES CITED


Anonymous. Items of Interest to the Mariners of the Pacific. San Francisco Call, March 1, 1910, page 15.

Anonymous, Triumphal Return from Martinez, Mains'l Haul Vol. 5 No. 1, page 2, September 1968.
A letter from San Francisco, to the Philadelphia Pennsylvanian, dated March 10, says:

“The first official flag of the Order was hoisted to-day on the fore royal mast head of the U.S. revenue brig Lawrence, by Lieut. James B. Mills, of Commercial Lodge, No. 256, of your city, under directions of Capt. Frazer, Special D.G. Sire, appointed by the R.W.G. Lodge of the United States for California, Oregon and the Islands of the Pacific. It floated beautifully in the breeze, and I trust it may continue to wave over the sea, and greet the land where the benign influence of the brotherhood is so often made manifest.”

Courtesy of the Greenville Mountaineer, May 31st 1850

Editor’s note: This tidbit has caused some confusion as the Lawrence was currently in Hawaii at the time. The is no log entry validating the event.

Official Log Book No. 3
Euterpe 1864

May 2nd 1.45 PM – Calcutta – Sent all hands to dinner. After the dinner hour was expired the hands were told to turn to, to work when John Smyrian, George Walker, W Quilty Nathaniel Pagani, Edward Howard, J Louis McMollen, Henry George, Chas. Allen, Jas. Hannah, being nine of the Ships Company refused to do any more work on board of the Ship, And when asked the reason assigned no valid reason for so doing, for fear that the Ship might be in danger by there remaining on board all night, as they might influence the rest of the crew I the Master thought it prudent to have them arrested & procure Luscars in their stead.

W J Storry Master
William Sinclair Mate
John Joseph Dowd 2nd Mate

May 3rd – Calcutta – The Above Seamen, with the exception of Henry George was committed by the Police Magistrates to 4 seeks imprisonment in the House of Correction, George being led away by the rest resumed duty the same day.

W J Storry Master
William Sinclair Mate
A “Man Overboard” Scare

The captain and crew of the ferry boat Berkeley declare they were made the victims of a miserable hoax on the 11 a.m. trip yesterday. While the vessel was in mid stream the cry "A man overboard!" went up. The deckhand who heard the alarm at once signaled the pilot house. The Berkeley was stopped and a boat lowered. A search of the waters within a hundred yards of the ferry boat was made, but not a trace of a would-be suicide could be found. The captain left the chief officer in charge of the pilot house and made a personal canvass of the passengers, but not a soul who saw a man jump overboard could be found. Instead there was some slight evidence that the whole thing had emanated from a band of practical jokers, so the matter ended there. If it was a false alarm it was a very poor kind of a joke: if it was not, one more unfortunate has met his fate in the waters of the bay.

--

"Cheer Boys Cheer"

AN EMIGRANT SHIP LEAVING HARBOUR
DRAWN BY CHARLES W. WYLIE

The Great Potatoe Tragedy
(Comedy)
In Five Acts & Epilogue

Act II
The Cook on the Track

To the galley they sent the embargo feed,
And consistently smacked their lips
And said to each other while smoking on deck
There were places much worse than ships.

Yet! Even while speaking JUSTICE had twirled them
The steward by the the cook was told.
With dire looks of dismay the story of guilt
And his bold action was prompt & bold.

The steward said keep them mind don't give them up
I'll go and speak to the Captain
The cook smote a smile as he locked up the dish
The seconds were spudless again.

Walter Peck – Euterpe Times Volume 1, No.10 November 15th 1879, Lat. 43.15 S, Long. 66.67 East long.

Lost and Found

LOST – 1 roll plans on the steamer Berkeley, 6 p.m. trip from Oakland, Wednesday. Return to 616 Battery st.; reward.

--

Ship Indiana leaving Karluk, September 27th 1900.
**Ship Balclutha Hits Reef and Will Be A Total Loss**

One of the Salmon Fleet Goes Ashore at Geese Island Off Kodiak - Everybody on Board Reaches Land and Cargo May Be Saved, but No Hope Is Entertained of Getting Vessel Afloat

---

The ship *Balclutha*, Captain Bremer, which left here April 27 for Karluk, treat ashore May 16 at Geese Island off Kodiak, and will become a total loss. All hands got ashore and the cargo may be saved. The *Balclutha* was one of the large fleet that went north to bring down the season’s catch of salmon. Like the others, the *Balclutha* carried a large cargo of cannery supplies, and in addition to her crew had on board a numerous company of white and Chinese fishermen and laborers. She left here intending to call at Ladysmith, but the weather proved unfavorable and she proceeded directly to Alaska.

Turning back is to some superstitious minds an invitation to the gods of ill luck. The *Balclutha* barely cleared the coast off this port when two women stowaways were discovered hidden away in the forecastle. Captain Bremer turned back and off the port transferred the women to a pilot boat, on which they were brought to Meiggs wharf.

The *Balclutha* is owned by Pope & Talbot of this city. She was under charter to the Alaska Packers' Association. She was built in 1886 at Glasgow and is a vessel of 1534 tons register.

With the news of the *Balclutha*’s misadventure came word of the safe arrival at northern ports of other vessels of the salmon fleet.

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**Balclutha (cont)**

The *Star of Russia* reached Karluk April 19. The *Gatherer* arrived at Alitak May 13, and on May 21 the steamer *Nushagak* reached the same port. The *Star of Italy* and the *Chilcat* reached Pyramid Harbor May 19.

*Courtesy of the San Francisco Call May 27th 1904*

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**Butcher Boy Returns**

The *Butcher Boy* returns from an Ensenada race.

*Courtesy of the Maritime Museum of San Diego*

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*seen here on May 8th, 1953, *Butcher Boy* returns from an Ensenada race.*
The most significant event was a flooding casualty that led to the order of "ABANDON SHIP". During the night of 21 May 2002, DOLPHIN surfaced for transit and routine battery charging in the vicinity of Cortes Bank, 100 miles southwest of San Diego, California. Swells had an average wave height of 10-11 feet and an average period of 6-7 seconds at the time of the casualty. Close to midnight, after about 5 hours and 10 minutes of diesel operations, the torpedo shield sail side door opened and water began flooding the submarine. This flooding led to numerous electrical fires and the grounding of both of the ship's main storage batteries. With the impending loss of all electrical power, possible capsizing, and the possibility of a battery fire or explosion, the order as given to abandon ship. All hands were rescued and the ship was subsequently towed to port. On 4 October 2002, at pier 160A, SPAWAR Compound, a Change of Command ceremony was held. The ship was moved to drydock in preparation for the first availability in the sixth overhaul cycle. Major work scheduled for this availability are repairs and upgrades following the 22 May casualty. The year ended with DOLPHIN in drydock at Naval Station, San Diego undergoing repairs conducted by Portsmouth Naval Shipyard.
**From the Editor**

As the month of April concluded, the work aboard the *Star of India*, *HMS Surprise*, *Car Float No. 7* continued on with the addition of *U.S.S. Dolphin*. The progression of the museum, albeit with delays, has stepped in the direction according to plan.

Commonly, and probably to the dismay of the crewmen I am working with, I step away each Sunday for about 10 minutes just to get a glimpse of everything else going on about the museum. It gives me the chance to snap a few pictures, understand the busy nature of the museum and to see the changes from one moment to the next.

As restoration continues on the fo'c'slehead aboard *Star of India*, in addition to the work on her main upper tops'l yard, crew are busy re-rigging the small craft located on *Car Float 7*. Across from them, the yards of *HMS Surprise* continue to be re-furbished. Below, other volunteers continue to clear out debris, priming the now, finally clean areas. The fact that clean areas now actually do exist testify to the ongoing determination of the staff and volunteers.

As *Dolphin* now adds to the exercise, *San Salvador* now rests on the distant, or perhaps, looms horizon. 2009 will represent one of the hardest years of work at the museum. 2010 will see a museum transformed, but founded on the same drive that got it here.

There are no doldrum days in the forecast.

As a reminder, there is a Yahoo group available at: [http://groups.yahoo.com/group/starofindia/](http://groups.yahoo.com/group/starofindia/)

If you have any thoughts, news or contributions, please send them along to: euterpetimes@yahoo.com