GOLDEN GATE LIVE STEAMERS

A HISTORY

America's Oldest Live Steam Club!

A History of the Golden Gate Live Steamers

IN MEMORY OF

Victor Tom Shattock 1886—1974

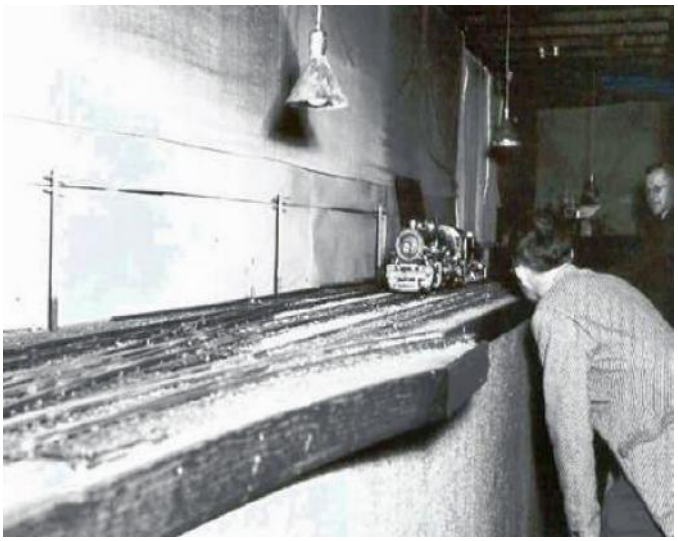
The Early Years

With the passage of time, and with the passing of older members whose personal memories extend to the founding and early years of the club, there is a danger that their record of accomplishment will recede into limbo. This brief history then is intended to be a tribute to those stalwarts and a reminder to newer members that our club facilities did not just emerge out of thin air, like Brigadoon! A reminder too that ours is the Oldest Live Steam Club in the country! It was founded by Victor Shattock in 1936, though at that time the club had no outdoor trackage, as we have today, steam operations being confined to the basement of Vic's home in Oakland, California as well as the outdoor trackage, after 1940, of club member Loren Thacker in Stockton, Calif.

Victor was born in Culmstock,Devonshire, England, on December 20,1886, one of five children of James and Lavinia Shattock.Victor was born in "Bridge House" located on the river Culm immediately next to a railroad track. Possibly a sign of what the future would have for the young infant. James worked as a stationmaster on the Great Western Railway for some 47 years. (1878-1925) He worked at a number of railway stations but the two that he was at for the longest part of his career were DUNBALL and DURSTON. His brother "Harry Shattock" (Vic's uncle) was an Inspector on the GWR Exeter Branch. When Vic was still in his teens, he started working in one of the Engineering Offices of the GWR (Great Western Railway) and stayed with them for approximately three years. He was eventually trained as a Tinsmith (plumber) by his maternal uncle, John Smith.

In September-1906 Victor married Maude Alice Drake, the oldest of eleven children who lived in Hornsey, a borough of London, England. Her Father, Josiah, was a local shop keeper and cabinet maker who "was very proud of his tools" and would not let, just anyone, touch them. No one, that is, except a young Victor Shattock.

After they got married, Vic and Maude started their family. Two sons and a daughter were born in England. Around 1911, the family made the decision to set out for a new life in North America. They decided to settle in Calgary, Alberta, Canada. Victor set himself up in the plumbers trade and some years later would own his own shop in the farming community of Nanton, some sixty miles south of Calgary. Three more daughters were born to Vic and Maude during their years of living in Canada.



During those very early years, Vic tried to find whatever time he could to devote to his hobby. He built model steamboats and scale models of stationary engines. In 1913 he built his first live steam locomotive model and had it running on a short test track in his backyard. His wife Maude was not always pleased when he tinkered with his models on her dining room table. When World War 1 began, he enlisted in the Canadian army, serving in France in a division of the Canadian Expeditionary Forces, known as the 8th Railway Troops. While there he was instrumental in repairing railroads that had been damaged during the fighting with the Germans. He helped to build a railroad that was approximately two foot gauge. (60cm)

When the war ended Vic came back to his family in Canada but began to hear of greater job opportunities, and possibly a better life in California, from his longtime friend Walter Melvin. The family made the decision to move in 1923 and they settled in the Suisun-Fairfield area of California, several miles southwest of Sacramento. Once there ,Vic started working for the Southern Pacific Railroad as a "Water Service Helper" (a glorified name for a "railroad plumber") and was required to travel in an "Outfit Car" around part of the railroad's Western Division, fixing almost anything requiring the services of a plumber, tinsmith or HVAC repairman.

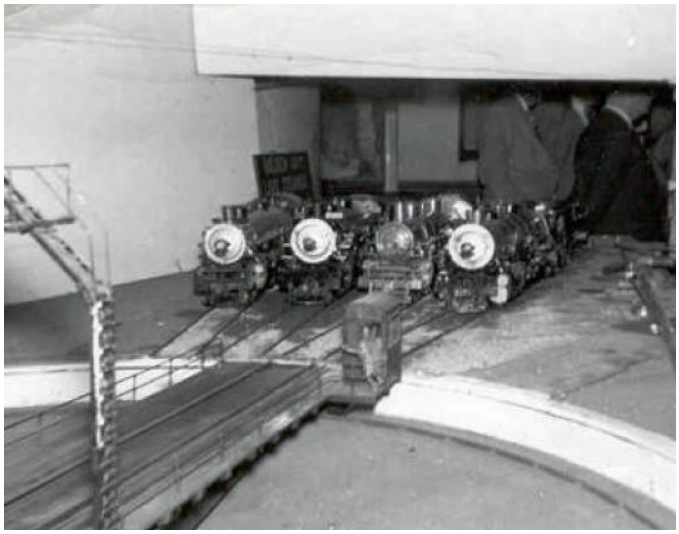
While living in the Outfit Car (SPMW # 417), Vic built a 2 1/2 inch gauge live steam railroad that ran up and down on a piece of track inside his Outfit Car. When the car was

VIC SHATTOCK AT HIS BASEMENT LAYOUT

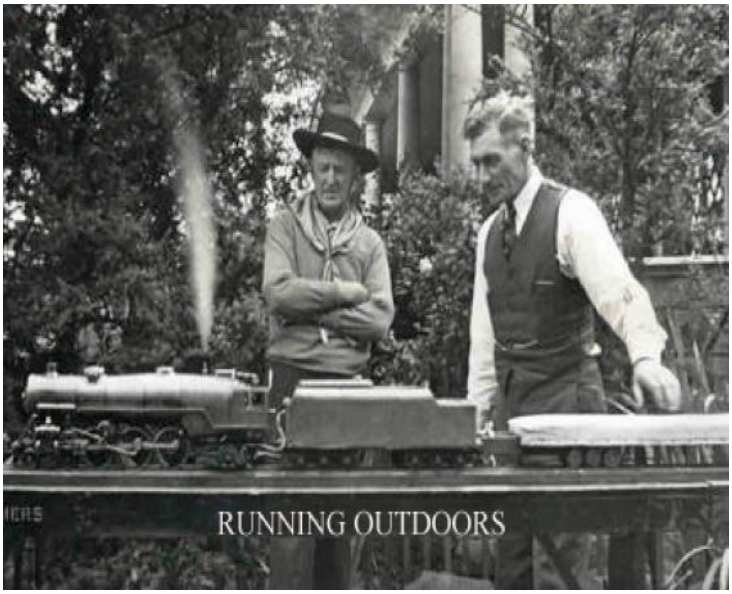
set out on a siding in the various towns that it visited, Vic would have guests over to see the wonders of steam railroading in action as he demonstrated what his models could do when put to the test. In the late twenties the family was stationed at Niles in what today is the historic part of Fremont, California.

About 1930, the State of California put on a big Agricultural Show in Davis, California and set up a large display tent for exhibits. S.P. carpenters were used to lay a runway, on which Vic built a track for demonstration purposes. This display was a great success and was seen by an estimated 10,000 people during the course of the event.

During the thirties Vic moved his residence several times, with each move hoping to find a place where he could build a railroad and have room for a nice workshop. Finally, in 1934, he found a house, in the Fruitvale district of East Oakland, under which he could build the railroad empire he had always dreamed about. The house was a two story Victorian, built sometime in the late 1800's, with the living quarters on the second floor and the "basement" which was actually on the ground level.



The basement was quite large at 32 x 45 feet and with the notable exception of the heating furnace and the laundry tubs, it could be entirely devoted to steam railroading! The house was located near the corner of 38th Avenue and Foothill Blvd right next door to a Signal Gas Station. The track ran all the way round the basement walls, and included an electrically operated model of a 110-foot turntable built to prototype Southern Pacific standards. The official address of Vic's residence was 1877- 38th Avenue, Oakland, Calif. This address graced the



club's letterhead stationary for many years.

By this time Vic had three or four engines, which were fired up near the turntable, adjacent to where the water tank was located. Denatured alcohol was used for fuel, which burned with intense heat in a special vaporizing burner of Vic's own design. A blower was used during the startup procedure, the fumes being directed up the nearby chimney. Once the first engine was fired up a test run was made. If successful, a freight consist was coupled to the engine and running would commence, sometimes single headed and sometimes double headed. These weren't passenger-hauling runs of course, just free running alcohol burning engines. Although the club later moved to outdoor facilities, the basement track continued in use for twenty-seven years, until the house was torn down, at which time the track was sold to a former club member in San Francisco who set it up in his basement and used it from time to time for many years. Around about 2003, most of this original basement trackage was sold to club member Kevin Lee who lives in Northern California near the town of Yreka. It is truly amazing that after all of these many years, a large portion of Vic Shattock's famous basement railroad trackage still exists !

Vic was not the only one using the track, several other steam aficionados frequented the basement railroad, bringing their own engines to run. Folks like Fred Braasch, Al Forst, Ralph McChesney, Harold Collins, Fred Daly, Frank Dee, Charles Garbett and Walter Brown. There were plenty of non-live steamers too who came to watch the proceedings. Even the press got into the act, the concept of a scenic steam operation in someone's basement being the basis of several articles in the printed media. No TV in those days of course!

The number of visitors and the questions that they asked, "How do you get started?" "What do they run on?" "Where do you get your Kits?" began to be somewhat overwhelming. So Vic Shattock and a couple of friends, Fred Braasch and Charles "Budge" Garbett decided that the thing to do was to form a club and put out the requested information on a large production basis to help other interested hobbyists get started.

All of the publicity that Vic received from numerous sources over the years led to Vic's

basement being a magnet that attracted model railroaders, and he conducted classes (clinics really), complete with a blackboard on a large easel. He used ordinary white chalk to draw out designs for making piston valve cylinders, check valves, pumps, boilers, mechanical lubricators, whistles and so on. The floor of the basement was usually covered with a thick layer of fresh sawdust from the SP woodworking mill in West Oakland. Long wooden benches were spaced around the South end of the basement room for visitors and members to sit on. There was a large, ornate ashtray on a bronze stand that stood in the middle of the floor, as a courtesy to those who cared to smoke during the meeting. The ashtray and stand were originally from an old railroad Pullman car. Around July-1936, a number of the Live Steam modelers in the area at that time got together and started their own organization. Fred Braasch suggested the new club's name: Golden Gate Live Steamers.

In a film made of his basement layout, Vic is shown working on his six inch Atlas lathe, which, together with his Atlas drill press, seems to have constituted the extent of his machine shop. Compare that list of equipment to the shops of some of the present club members! Whatever restriction that list may seem to imply, Vic turned out a series of beautifully built engines in 1/2"and 3/4" scales.

MODEL RAILROADER author, "Boomer Pete" visited Vic's layout and wrote about his visit in the January 1939 MR. He wrote that, "All model railroaders are brought up to believe that live steam and model railroading are two distinct hobbies." And went on to note, "But, I've just found out this is not always the case. I put in an evening last month as brakeman on a pike that really ran trains, did switching, included scenery in the layout and was in every way a true model railroad but the motive power was honest to gosh steam." In these sentences, Boomer Pete summed up the unique quality of Vic Shattock's layout.

There were 12 turnouts, including a double-slip switch, all hand-laid with scale 110-pound rail specially made for Vic by the O scale manufacturer, Lobaugh. There was a

working turntable, a five-stall roundhouse, a ballasted deck trestle, one steel girder bridge, two signal bridges, one working water column, one working water tank, three tunnels and an automatic block signal system. Rolling stock included 22 scratch-built freight cars and a Harriman Coach. The wood bodies of the freight cars were made from Kraft cheese boxes, and the tanks on the tank cars were old carbon tetrachloride bottles. Vic's Pacific Fruit Express refrigerator cars could keep your sandwiches cold if you dropped ice cubes through the working ice hatches.

The motive power was all scratch-built by Vic. There were six 1/2 inch scale, alcohol-fired, SP prototype steam locomotives. Two (# 3217 and # 3254) were 2-8-2 Mikados. Two (# 2422-1, built in 1929 and # 2422-2, built later) were 4-6-2 Pacific's. (The number "2422" was Vic's favorite locomotive number, and he used it several times.)
There were also # 2753, a 2-8-0 Consolidation, and # 1207, an 0-6-0 switcher.

These steam locomotives were manually controlled, and fired by a vaporizing alcohol burner system of Vic's design. The locomotives averaged about 42 inches in length, and weighed from 70 to 80 pounds each. All were highly detailed scale models, had axle-driven water pumps, mechanical lubricators, and ran on 85 to 100 pounds of pressure. Ken Shattock (Vic's grandson) describes them as "works of art", and notes that to build them Vic had to know "... general machine work, tool and die making, pattern making, sheet metal work, woodworking, blue print and layout work, you name it." He told Ken that he read everything he could find on the subjects he was interested in.

Vic and his layout were often the subjects of local media reports, and Movietone News filmed him and his layout. In October 1938 Vic took the train to New York City with one of his locomotives (SP#3217) where he steamed her up on the weekly "Hobby Lobby" radio program. He was involved with an exhibit at the 1939-1940 Golden Gate International Exposition on Treasure Island in San Francisco Bay, and later loaned a locomotive as centerpiece for a luncheon meeting of the famed Bohemian Club.

Victor Shattock Bibliography

A partial listing of Vic's publications

1. "An Alcohol Burner for Live Steam Locomotives"
   by Victor T. Shattock ; The Modelmaker, Feb-Mar 1939 — Page 87

2. "A Denatured Alcohol Burner" for 2 1/2" gauge locomotives operated
   by Steam ... by Victor T. Shattock.
   The Miniature Locomotive Mar-Apr 1953 — Page 19

3. " Piston Packing" by Vic Shattock (''Out in the Tool Shed" Dept.)
   The Miniature Locomotive, ... Jan-Feb 1954 — Page 22

4. " Mechanical Lubricator" by Victor T. Shattock
   The Miniature Locomotive ... May-June 1952 — Page 19

5. " Helpful Hints" ... by Vic Shattock; "Split Smokebox" access
   The Miniature Locomotive (date unreadable)
   Splitting the smokebox so that the top half is removable for better
   access to piping and feedwater/ superheater appliances ...

As interest grew it became clear that an outdoor track, where larger, passenger hauling, engines could run was a desirable goal, though full achievement of that goal was many years down the road. In between times several temporary outdoor installations were built. One notable example was for Southern Pacific and the Yardmaster's Association on 74th Avenue in Oakland. An 80' track was installed along which an engine ran back and forth hauling children, succeeding, at least in part, in bringing the existence of the club to the public's attention. Club member Larry Duggan wore himself out, lifting children on and off the riding cars.

In 1939, an "Industrial Arts Teachers" convention was held in

downtown Oakland, California in the ballroom of the old 'Hotel Oakland' at 14th & Alice Streets. Several members of the Golden Gate Live Steamers displayed their models and a portable track built to 1/2 inch scale, 2 1/2 inch gauge was constructed in such a way to allow for one or two of Vic's locomotives to pull flat cars to and from the Kitchen and return with plates of food for the convention delegates. This was one of the special highlights of the convention. In the March-1940 "Model Craftsman" magazine, there is a photograph of the live steamers who participated in this exhibit as well as a detailed listing of the locomotives and rolling stock that they had on display.

In 1940, one of the club members, Loren Thacker, built an outdoor track in the back garden of his home at 1620- Walnut Avenue in Stockton, Calif. Loren used "keystock" for rails, which were spiked down to the crossties using finishing nails. This track was used not only by Loren, but was frequented by many of the other club members for it provided a venue where passengers could be hauled, something that was not possible on the basement layout. Once WWII started there was of course no opportunity to advance the club's plans to construct a permanent outdoor track, so those plans had to be put on hold. Basement activities continued however, sometimes with an unanticipated result.

It seems that the number of cars parked in front of Vic's house had aroused the suspicions of the police, and other authorities. During WWII the authorities were always on the lookout for meetings where subversive activities were being planned against the security of the country. Every Friday night, and other times as well, visitors were always streaming into Vic's basement to see the trains. Usually, they parked out on the street or in the back lot of the Signal Gas Station next door and walked down a side walkway to the back of the house, usually in the dark. There was no external walkway lighting. Thus they skipped the front stairs and completely ignored the operation of Vic's doorbell to let him know that any visitors were coming by. Perhaps some subversives were planning an insurrection! Or, maybe some other underhand activity was taking place within!

Vic started noticing that a couple of strangers were in the midst, too well dressed to be potential Live Steam enthusiasts. These individuals started attending his Friday night meetings now and then. One night they arrived extra early before other visitors arrived

and had a private meeting with Vic and went ahead and identified themselves. They told him that someone had reported suspicious activity but after making several visitations they admitted that they could see nothing suspicious was happening at all. They then appeared to make several more visits, because they got really interested in seeing Vic's trains operate.

During most of the 1940's, club members Vic Shattock and Walter Brown were co-chairmen of the "Live Steam Standards Committee" for the National Model Railroad Association (NMRA) . In 1947, the NMRA held their annual National Convention in Oakland, California. On one of the group's "Layout Tours" convention delegates were bused to Vic's home so that they could see his famous layout in operation. So many delegates attended this tour that many had to stand outside the house and peer through the basement windows at the Live Steam operations. As one old-time visitor to Vic's basement fondly recalled:
"Open the Windows" — "Light Up The Boilers" — "Run Trains" .....
Yes, it was just that simple. Sadly, it is all gone today and only great memories remain!

In the mid-to late 1940's the search was on for a suitable piece of land on which a permanent outdoor track could be laid. Eventually, the club got word of an area in Redwood Regional Park in Oakland that might be available for constructing a miniature steam railroad facility. It was located at 7861-A Redwood Road, a couple of miles East of the intersection with Skyline Blvd. Upon inspection, it was found that a lot of vegetation had to be cleared before a real survey could be done, and stakes driven. But it was a suitable site and it was available for use by the club, under the auspices of the East Bay Regional Park District (EBRPD) of the Park Department, whose intent was apparently to provide an entertaining spectacle for the public at large. The late club member "Frank Dee" was chiefly responsible for negotiating with the Board of Directors of the Park District.

But where was the money going to come from for all of the necessary materials to build a track at the Redwood Park site? And how much labor would be required to build such

a monumental project as initially planned. During the basement days of the club dues were ten cents a month, mostly for coffee and donuts, but we often ran in the red, so dues were raised to one dollar a month or simply ten dollars per year. Even so, the coffers were hardly full by the time the decision to move to Redwood Park was made. It was decided to use the basement railroad as a fundraiser.

When we had visitors and spectators we asked them to make a donation to our new track fund. Many would give a dollar or so, and not infrequently, a ten-dollar bill! Occasionally the donation was even larger. After a visit by a local scout troop, the lady in charge sent the club a check for $120.00; quite a sum in those days! Fortunately too, the club still had good connections with people at Southern Pacific, some twenty-six managers of whom were made Honorary members of GGLS. This connection was to stand us in good stead later on.

Within the club there were many discussions as to the type of facilities we should build at the new site. Most members favored having an elevated track so that they could ride behind their engines sitting "side saddle" on a flat car behind the locomotive. Remember, in those days there were far fewer large engines than there are today. So the need arose for a good supply of lumber for the high track construction.

Maybe one of our good friends at S.P. would be willing to supply us with some ties, we needed 150 of them! The SP Roadmaster told Vic Shattock that the SP doesn't give away or sell railroad crossties to their customers, let alone a scale live steam railroad club. Vic countered that he wasn't interested in their customers. That they didn't have to have new ones, just good ones. The Roadmaster countered that "You have your nerve". Even if we wanted to help you, said the Roadmaster, where would we get 150 ties from. Vic replied that there are a couple of box cars currently

sitting in West Oakland Yard containing approximately two hundred ties that came from a ballast deck trestle being taken apart in Cordelia, Calif. The Roadmaster looked surprised and stated: “How do you know that? Vic replied back that the GGLS have their “spies” out to watch for such availability.

After some discussion, they came through, but there was still the question of how to get them to the track site. Well, Vic was a foreman with S.P. and had two trucks at his disposal so they were put to good use! The trucks were backed up to the boxcars in the yard and the ties rolled off onto the truck one at a time. Then the trucks were driven to Redwood Park by SP employees and unloaded and stacked neatly to greet the members when they arrived at the site the following weekend. As such, the ties were only suitable for use as high track beams, when stretched end to end, so more ‘spare’ lumber was acquired from S.P.’s various facilities and sawn into triangular piers or bases on which the ties would rest. Some of this spare lumber came from the large bridge timbers that became available upon the dismantling of the overhead trestle approaches to 16th Street Station in Oakland, which formerly hosted the SP Red Electric trains of the ‘IER’ system. Some of these massive timbers were rather bent or twisted and contained a lot of grit in the wood. They had to be planed and then cut to size. This was accomplished at the West Oakland Woodworking Mill of the Southern Pacific, wearing out five bandsaw blades in the process!

Construction at the Redwood Park site got started in mid-1948. Once all of the heavy vegetation was cleared away by the Park District, club member “Scotty Gordon” of the

S.P.'s engineering department went to work and did a complete survey of the site. He drew up contour maps of the site and then the Park District performed all of the required grading, according to the maps, at no cost to the club.

The first track built at Redwood Park was the "high track", used for the smaller gauge engines. It was all that was necessary in those early days. This was a multi gauge 2 1/2", 3 1/2"and 4 3/4" gauge setup that used scale railroad ties, for the roadbed. These scale crossties were fastened across the top width of the prototype supporting ties. Originally, the aluminum rails were fastened to the ties by drilling holes in the bottom flanges of the rails and driving in screw nails, a system later abandoned. However, the screw nail system kept the original track in perfect alignment for many years.

Throughout all of this construction activity the people at S.P. were amazingly supportive, providing us with a planer for squaring up the lumber and many other tools for easing the workload. They even provided us with the redwood for the scale crossties, and cut them for us, some 7500 total! The SP even banded, packaged and delivered the ties to the track site. How was all of this timber held together? With nails supplied by S.P. of course! At the opening ceremony at the track in 1950, someone mentioned to SP Asst. Gen. Manager Moody that there appeared to be an awful lot of SP material being used by this private club of hobbyists and was he aware of that! Mr. Moody replied that he was fully aware of the amount of SP material at the site and said it had his personal approval.

Most of the money that had been saved by the club was allocated to buying rails for the new Redwood Park track, which left little for any other purchases. It was at this time that our good connections to S.P. Officials paid off again. We held a dinner meeting with them at Oakland's Belini's Restaurant on Telegraph Avenue at 40th Street, and then again in the basement meeting room of Vic Shattock's house, where he showed them how worthy the work that we were doing was and that it deserved their support, adding that any help that they could give us would be greatly appreciated. They seem to have been impressed, with the result that they got their engineers to survey the site, put in stakes for the layout, prepared the contour maps and presented them to the Park District for their approval! Without S.P.'s help the Redwood track may never have got underway. At least it would have been delayed for a long time.

During construction of the original "high track" at Redwood Regional Park and for quite a number of years immediately following completion, the site came to be known among

many members as: “The Project”.

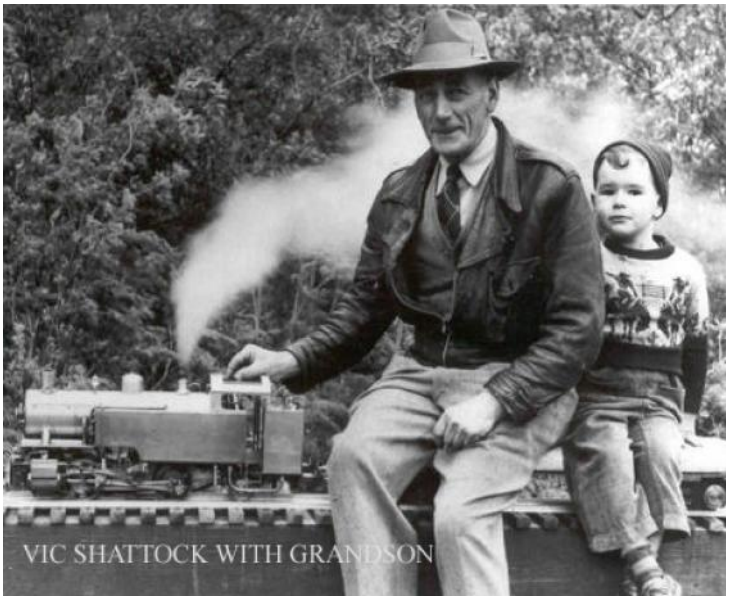
As was to be expected, there was some opposition from other users of park land, particularly from the local horsemen’s association. “Why should our group have the use of all that nice flat land for free?” But a series of meetings with other interested park user groups eventually brought things to a relatively amicable state and we were allowed to proceed with our plans.

The track was 1,330 feet long and had a transfer table, about six foot six inches long,that was used to move the engines from the firing up tracks to the operating track.

The track was officially opened on September 2nd 1950, at which time the Golden Spike Ceremony was performed. A miniature golden spike was jointly driven by Mr. E.D. Moody, Assistant General Manager of the Southern Pacific Company and Mr. John MacDonald, President of the park district Board of Directors. A red ribbon, stretched across the track, was then cut by Mrs. Irene Evans, one of Vic’s daughters. Irene was employed in SP’s West Oakland Signal Office. Following the ribbon cutting portion of the ceremony, a parade of locomotives took place, led by Jim Keith’s 4-6-4 Hudson locomotive driven by his son, Sid. Jim and Sid were from the Southern California Live Steamers organization.

There was a somewhat disturbing incident on that opening day. One of the engines fell off the high track, together with the engineer! Fortunately neither was badly hurt, the engineer suffering a few scratches and the engine a couple of bent pipes, but both were steaming well later in the day! Such an incident is, happily, extremely rare and to this day high track engineers refuse to wear bulky padding whilst driving their engines! Once the track was complete we had to show the Park Department that they had been justified in allowing us to build on the site. At that time though there were only two or three members with suitable engines so these were put to good use in showing the public just what was possible in the way of hauling freight and passengers with small live steam locomotives. Members Vic Shattock, Al Forst, Harry Dixon, Tim Reardon, Walter Brown and a hand-ful of others, kept the rails shiny and the interest up among members and the public. As time went on, more and more members completed building engines and ran them on the track, creating ever greater interest on the part of the public.

In the early days in Redwood Regional Park, “Dick Walpole” was the general manager of the Park District and at times, he sometimes seemed hard to please in some of the requests he would come up with now and then. On the “local” level, “Wes Adams” was the Park Supervisor and resided within the park,
in a single family home situated within earshot of the club’s track. He was a wonderful


VIC SHATTOCK WITH GRANDSON

person to work with and very cooperative as to certain requests from the club.

In 1954 the club began to publish the "Callboy", its monthly journal, which it has continued to do to the present day. The late member "Larry Duggan" came up with the idea of the Callboy and gave it its present name as well. It has been a record of the club's achievements, a fountain of technical information, and unfortunately, an obituary listing of the passing of members as the years have gone by.

In 1955 the club hosted the Model Engineer Show in the 3rd floor ballroom of the Oakland Auditorium building, now known as the Henry J. Kaiser Convention Center. The dates were May 13th, 14th and 15th. Member John Sweet appeared on KGO-TV's 'San Francisco Tonight' program to promote the show. A portable track, built by Harry Cook and Bill Anderson, was set up in the studio for Bill Brower to run his 'Mastodon' engine on, while Harry ran his 'Tich'. Both the TV appearance and the Show itself served to promote the interests of the club and no doubt helped to bring more people into the fold.

The April-'55 Callboy noted that there would be 33 finished locomotives, 20 unfinished locomotives, 32 stationary engines, 6 boilers, 16 boats and 20 other miscellaneous models and parts as well as 80 feet of track, Planes, tools and other items at the show. As an additional promotion, the Emporium, in San Francisco, and Capwell's, in Oakland had window displays of club models. The 80-feet of portable track was utilized in the Ballroom location of the show to give rides to the general public. Members Vic Shattock and Al Forst came forward with their 3/4" scale Pacific and Atlantic locomotives, respectively, to fulfill this operation.

The show was officially opened by the Vice-Consul of the British Consulate in San Francisco. Profits from the show were used by the club to purchase materials to build the new clubhouse/station building in Redwood Regional Park. This building was designed and laid out by the late club member, Bill Smith, who was employed by the City of Oakland.

It was in 1955 too that dues were set at $10.00 a year. Another measure of the prices at that time can be given by noting that Lester Friend's Yankee Shop catalog of engine castings and supplies cost all of 25 cents!

By August of 1956 discussion was underway as to whether a planned ground track at Redwood Park should be 7 1/4" gauge or 7 1/2". It was in this month too that Vic Shattock was asked to write a history of the club. A few months later, in November of that same year, Vic celebrated his 50th. wedding anniversary.

It is easy to forget that as well as being the oldest live steam club in the country GGLS has other notable attributes to be proud of. The August 1957 issue of the Callboy noted that the club had the longest 2 1/2" gauge track in the world!

In September of 1957 it was announced that 7 1/2" gauge had taken hold as the standard gauge on the West Coast and that would be the gauge that the club would use at Redwood Park. That adoption has led to many conflicts over the years. Obviously one cannot travel from coast to coast (or overseas) with a large scale engine and expect to be able to run on all of the tracks belonging to all live steam clubs. In fact, only for the two smallest, passenger hauling, gauges can one find facilities everywhere on which to run.

By June of 1959 work had commenced on pouring concrete piers for the high track at Redwood. They were to be used to replace the wood piers that had been used up to that time as a number of existing timbers were beginning to show their age. And as there appeared to be a definite need for a ground track at the same site since no less than ten 1 1/2" scale engines were announced as being complete, or under construction, a large portion of the original dog-bone pattern of the "high track" had to be re-designed to provide right-of-way space for the new ground level track for the larger engines.

By August, twelve concrete piers had been cast and there was a call for some muscle power to be used in the removal of the wood piers. Members Ken Shattock and Walter Oellerich came forward and carried out this nasty and dirty duty at the far end of the

existing layout. Member Bill Brower praised Ken and Walter for doing this rather heavy task. It seems that only a few members were doing all the work. Isn't that a familiar cry!

At the September meeting John Sweet announced that the Park Department placed some fencing around our facility at Redwood, to provide some measure of crowd control. We were becoming popular enough to require such restraining measures!

The Fall Meet of that year had a low attendance, both by live steam men and the public. This was attributed to there being little advance publicity, that minimization being a conscious decision by the club's members since it was felt that previous meets had been too popular with the public, leading to crowd control problems. Perhaps though we had gone too far in reducing promotion of the event !

A letter from LBSC was read at the October meeting. He claimed to have made, and given away, 181 of his standard size injectors. He also reported that some of the Welsh coal that he had been getting was of poor quality, and that even at the best of times the quality was very variable. Over the years there were a number of communications from this well known writer on building model locomotives. Though he hated the term 'model' when applied to his designs!

Regarding the subject of "Welsh Steam Coal" in the small, "nugget" size:
Member John Sweet arranged for individual orders to be taken from club members who desired to use this type of coal for fuel in their locomotives. He then pooled the orders together and placed a large order for several sacks of the product with the National Coal Board in the United Kingdom. The sacks of coal arrived by freighter in San Francisco Bay several weeks later.

At the December meeting there was a lengthy discussion on the potential arrangement of the ground track at Redwood. There were four schemes presented.

#1, A forty foot minimum radius continuous track around the existing high track.

#2, A fifty foot minimum radius continuous track around the existing high track. This scheme would require a trestle and moving the road.

#3, A seventy-five foot minimum radius continuous track, with long trestles across the creek and back.

#4, Two single tracks side by side with 30' turntables at each end, plus firing up and loading bays behind the station.

After a great deal of back and forth argument, scheme # 1 was adopted.
At the January 1961 meeting the question of financing the construction of the ground track at Redwood Park was discussed. Several members had investigated this matter and had concluded that some $1,384.50 was required to cover the cost of purchasing rails, ties, concrete, etc. There was a general agreement to proceed with the purchases as the work progressed.

On February 3, 1961 the 'LAST MEETING' of the Golden Gate Live Steamers was held in Vic Shattock's basement. The house had been sold and Vic and his family had to vacate and be out by April of that year. The railroad was dismantled and placed in storage for a while. Later on, certain locomotives and rolling stock and accessories were disposed of in various manners. A very sad ending to a Live Steam Empire created by a very congenial man considered by some to be a genius in his field.

The Callboy for May 1961 reported that construction of the ground track at Redwood was underway. Such a simple statement is inadequate in describing the amount of planning and labor that went into this enterprise, mostly by a hardy few of our members. The ground at the site was not exactly pool table level but was in sufficiently good shape to start building on, because of the extensive grading done by the Park District many years earlier. The completion of the dual-gauge ground level track at Redwood Regional Park the driving of a golden spike to symbolize that stage of the activity!

The Move to Tilden

At the end of 1962, although it seemed that the club had only just settled into Redwood Park, the question arose as to the possibility of moving to Tilden Regional Park in the Berkeley hills. William Penn Mott, General Manager of the Park District, gave a presentation at the December meeting in which he discussed the pros and cons of such a move.

The principle problem of remaining at Redwood Park was that there was a very limited usable level area for track expansion, in fact even our existing facilities were somewhat cramped. By contrast Tilden would offer a much larger area, for a much more spacious layout. The Park Department supplied us with a simple topographic map of the Tilden area so that some measure of the terrain could be gathered.

The Tilden Regional Park site was located in the hills of Berkeley, California at the intersection of Grizzly Peak Blvd & Lomas Cantadas. It is a former site used by the U.S. Army for their NIKE missile program, designed to provide defense from our potential enemies in the San Francisco Bay Area. The site also included a three story concrete bunker building that had been used by the Army as a Communication Center.

By April of 1968 the decision had been made to move to Tilden, even though such a move would require a great deal of effort in building the new facilities, only a few years after all of the arduous construction work done at Redwood. Suggestions were made that the high track at Tilden be made lower, so that straddle riding cars could be used. The lower height would have been necessary since the shorter amongst us would not have been able to 'Jump into the saddle' with a high high track! It was recognized, after much discussion, that building a lower track would necessitate building new track supports, so the decision was made to keep the existing track height so that the existing concrete track supports could be reused.

The years went by, with the club still occupying the Redwood site, though there were frequent planning sessions as to what should be done at the Tilden Park site. Arguments for and against having a dual gauge ground track at Tilden were eventually resolved into

deciding to transfer the existing dual gauge track from Redwood to Tilden, but to make all further extensions 7 1/2" gauge only. The final resolution was to make the outside, public hauling, track single gauge and the inner loops dual gauge.

In May of 1965, the club was still running at Redwood Park, and the Callboy reported that an air compressor had been donated to the club. Discussion ensued as to whether to install it at Redwood, or to wait and install it at Tilden when the move was made to the new site. These were the transitional years for the Club.

It was not until the Fall and Winter of 1971 that the move to Tilden was finally made. There was, a tremendous amount of work to be done, though the Park Department had graded most of the site and installed drainage. But in those early times at Tilden certain areas, of what is now the track, could become flooded after heavy rains.

By December of 1972 the Callboy reported that the ground level steaming bays had been completed at Tilden. The construction work continued for several more years until, in September 1975, the Golden Spike Ceremony was performed before an audience of several hundred people, and with an attending complement of more than forty locomotives! This ceremony also dedicated the completion of the Heintz Loop, named after Ralph Heintz, who donated some 4,000 feet of track, and other materials, to the Tilden project.

At the special meet in 1975, under the club presidency of Lou Bradas, several different individuals took a turn at “tapping” the Golden Spike to complete the new Tilden Park facilities. One of those individuals given this honor, was club Treasurer, Ken Shattock. The late Vic Shattock’s grandson.

For those members who joined the club after the completion of the major Tilden facilities it is difficult to imagine what a huge enterprise its construction was. Thousands of man hours went into both the planning and the building of this project, which was spear-

headed by such notables as Bill Brower, Bob Byers, Jim McDaniel, Dick Thomas, Louis Lawrence, Art Stewart, Frank Larimer, Blair Phillips, John Sweet, John Curtis and a host of others, not all of whom are with us today.

Two other people should be singled out for their great contribution to the Tilden track. Louis Romani, who, together with his crew, built the clubhouse, complete with toilets and kitchen, and Frank Larimer, who was boss and slave driver over the whole Tilden project.

In 1973, the club participated in the "Oakland Hobby Show" which was held in the arena section of the Oakland Auditorium. The show was sponsored by the Parks & Recreation Department of the City of Oakland. A small number of locomotives and rolling stock were on display for the Public to admire and the booth was staffed by members Ken Shattock, Jim McDaniel and the late Gary Smith. Also in 1973, member Ken Shattock (Vic's grandson) was appointed Secretary of the Western Region of the International Brotherhood of Live Steamers (IBLS) by outgoing secretary "Harry Dixon".

Unfortunately, our founder, Vic Shattock, did not live to see the Golden Spike ceremony of the newly completed railroad complex in Tilden Regional Park (1975), having died in April-1974, but his name lives on with the memorial plaque that adorns the side of the carbarn and, it is hoped, is a name that will not soon be forgotten, but will be revered by all present and future club members.

In May-1974, "Suzie Shattock" became the club's first official woman member. She is the wife of member Ken Shattock, grandson of club founder, Vic Shattock.

For members who have joined the club since those years of major construction, ending in 1975, it may seem that the situation has remained relatively static, apart from such projects as the building of the roundhouse. But those with long memories, or those with a collection of Callboys to which they can make reference, will be able to recall any number of proposed construction projects, some of which actually came to completion.

At the end of 1984 there was a proposal to build a heavy lift engine hoist, it having been observed that the existing hoist was somewhat overwhelmed by the weight of the larger engines that were now frequenting the track. By some sleight of hand, someone acquired a hydraulic ram from a service station car hoist. A suitable track beam was designed and built, and in short order a new heavy lift hoist was in place.

In 1985 there was a proposal to build a Gauge 1 track on the hill at the back of the clubhouse. There was enough enthusiasm expressed, and energy applied, that this project was carried through to completion. The track opened in November of 1986. However, after a few runs, with a fair selection of engines on display, the enthusiasm waned and the track, fell into disuse, now very little evidence of its existence remains.

In 1985 too there was a major change in the venue of our monthly meetings, from Laurel School to St.Christophers Church Hall. This move was, in part, motivated by the fact that on several occasions we had been locked out of the school when the janitor failed to show up! This could hardly be tolerated when so many members travel considerable distances to get to the meetings. The club has since changed their meeting location once again. Currently, the membership meetings are held on the 2nd Sunday of each month, at 10 AM, in the GGLS clubhouse at their Tilden Park site.

1986 was a banner year for projects. In March there was a proposal to build a pedestrian bridge, from the parking lot to the station. There was merit in this proposal since visitors, after viewing our facilities from the parking lot, are forever asking the question, “How do we get to the station to take a ride on the train?” They are invariably disappointed to find that they have to walk up to the Redwood Valley Railroad station, then walk down to our track. Stan James designed a suitable steel truss bridge and submitted drawings of it to the club members for their approval. There was a general agreement that the scheme was viable, so the drawings were presented to the Park Department, by Herm Volz, for their approval. Unfortunately, their approval was not forthcoming since there was no provision for wheelchair access, clearly impossible on a bridge of this nature. So the project was dropped.

In September of 1986 Loren Bryon and Bill Schaefer proposed a steep graded loop, for geared locomotives, on a hilly area out in the Heintz Loop. A preliminary rough survey was done and it was concluded that it was probably possible to build such a loop but that at least two bridges would have to be built across the existing ground tracks in order to get track radii that even geared engines could traverse. One of the bridges would have to be of approximately 50' span and again a drawing of a suitable design of a through truss bridge was presented to the club members. This time though there was no immediate need of Park approval, for interest in the project simply faded away!

This was the year too that the proposal to build a roundhouse was submitted to the membership, only to go down in defeat. That was not the first time that such a building had been proposed, and defeated. After a few more years though the feelings of the membership seemed to have changed, for a roundhouse proposal was finally approved and construction got under way. Although there were some bad feelings exhibited by some members over the method of financing the roundhouse construction, those members who now use this facility have nothing but praise for it. The area in front of the roundhouse building has been enhanced, of recent years, by the inclusion of a number of scale buildings and other structures, as well as the compressor house, so that members can now steam up their engines without having to drag them to the steaming bays near the clubhouse. It seems amazing now that there was ever any objection to this facility!

As the years pass the passenger hauling activities of the club seem to grow ever greater. The club has acquired two engines that are used almost solely for this purpose and one or other of them is in use for hauling the public nearly every weekend. In addition, members owning large engines frequently use them for hauling the public, much to the club's benefit. Then there are the club members who give their time as station masters, brakemen, and engineers on the trains. Without these people the club's coffers would be less full than they are, for voluntary contributions by the riding public constitute a considerable portion of the club's income.

During the summer months those working at the station were often subjected to hours of toil under the broiling sun, so, in April of 1986, a suggestion was made that a canopy be built over the station, to protect these workers from the elements. This turned out to be one of those projects that went very quickly, at least by our standards, and January 1987 saw it completed.

The club's fortieth anniversary was celebrated on the July 4th Holiday weekend in 1976, the fiftieth in 1986, and in 1996 we celebrated the Diamond Jubilee of our founding. There have been more than sixty exciting and interesting years and it seems unlikely that Vic Shattock envisaged such a lengthy existence for the club that he started in the basement of his house. But now that we have come so far, it would appear quite possible that we will one day celebrate our centennial. But don't let's get ahead of ourselves, we should be thankful for what we have at Tilden, both the physical entity of the facility , and the fellowship of those other members of our clan who use it. In the year 2011, the club will celebrate its 75th Anniversary! The Steamers have come a long way !

THE CONTRIBUTIONS OF OTHERS

Reading the previous section of this history of the GGLS one might think that the club's continuation has been mostly the work of one man, Vic Shattock. But obviously that cannot have been the case, there was far more effort required in building and maintaining the facilities than could have been accomplished by any one person, however talented ! And members pass away from time to time, as does everybody else, so the continuation of this active club has been the product of many member's work over the years.

All of the original members left for other pastures long ago, and even the oldest of the current member's memories only go so far back, so there is a tendency for past icons, the club's go getters, to be unknown to the contempory roster of members.

One of the most notable of this pantheon was 'Dick' Thomas, a prolific builder of locomotives, no less than 41, it is said, as well as being one time president and holder of many other positions of importance in running the club.

Although there were no others quite so prolific in their locomotive building activities as Dick Thomas was, many did contribute to the success of the club greatly. Men like Ralph McChesney, who was membership chairman for a very long time, Marty Seigal who was both President for two terms and general 'Greeter' of new members who made them feel at home. In adition to which he designed a propane burner that was later used in several engines made by others.

It shouldn't be imagined that all of the club members have an engineering background, especially in the locomotive field. After all, virtually no full sized steam locomatives have been built in the US during the working lifetimes of most of the living members! They are in fact likely to have come from a wide variety of fields and it is this variety that has enabled them to contribute to the club in their own special way.

Some have had the facilities to fabricate the steel structures that, from time to time, needed to be built in order to complete one of the many 'extensions' that have been built over the years. John Nicholson comes to mind here! And others have contributed their electrical skills in various ways. Architects and structural engineers have designed bridges, the station canopy, and other structures.

Much of the work carried out at the facility by the members is either not visible to the eye of the casual visitor, or it is not noticeable. One such item is the signaling system,

something that is essential to the safe running of the whole layout, both for the individual engineer, running his own locomotive, and the passengers being hauled on the 'Public Train'.

Although GGLS is not a large corporation, in fact it is a non-profit organization, it does require a great deal of work on the part of the members to keep it running. The 'office work' alone takes the services of several members. Someone keeps track of the membership, another keeps the finances in order, a third is Editor of the 'Callboy', the club's monthly newsletter. The club's website is the province of yet another member. And all are volunteers, unpaid, but dedicated!

And so, although he has long since passed away I am quite sure that were Vic Shattock to be here, to survey the club as it is today, he would find it in good hands and carrying on in the spirit of himself as the founder, with members just as dedicated as he was when he founded it.

FORWARD, FROM ONE ANIVERSARY TO ANOTHER

Although, to the casual visitor, the GGLS track probably looks very much the same from year to year there is almost always some maintenance or construction work going on here. Maintenance alone takes a lot of effort on the part of the members, who are the volunteers that do the work. Ties have to be replaced, new ballasting to be done, new switches put into position and many other chores.

But beyond this, large undertakings take place from time to time and if a casual visitor, from pre-millennium, were to return today he would be astonished at the changes that have taken place in the intervening years. From the visitors point of view the most noticeable is the new tunnel through which the passenger carrying train runs on its circuit of the track. Although the tunnel was not required, from an engineering point of view, it was added to give the passengers a feeling similar to that of riding a full sized train through mountain territory. Such was the nature of this project that it required temporarily shortening the normal passenger train run, by bypassing the effected area of the track, while the work was being performed. Since the tunnel was added there has been much favorable comment by train riders as to the experience of passing through it.

Another major project undertaken by the members has been the 'Steep grade section' of track, on which members can try running their engines up a much steeper grade than is encountered anywhere else at the Tilden Park site. This required the building of a lengthy 'bridge-ramp' structure, the finished appearance of which is quite impressive, that provided the background to the 'Golden Spike' ceremony.

Of recent times the wives of some of the members have acted as vendors of items of memorabilia at the track station entrance, badges, sweat shirts and the like and new items will undoubtedly be added to the list from time to time.

Although not yet underway, an installation of great interest will most certainly be the "Interpretation Center" which will demonstrate the operation and principles of steam engines, together with the working of related engineering facilities, pumps, gauges, etc.
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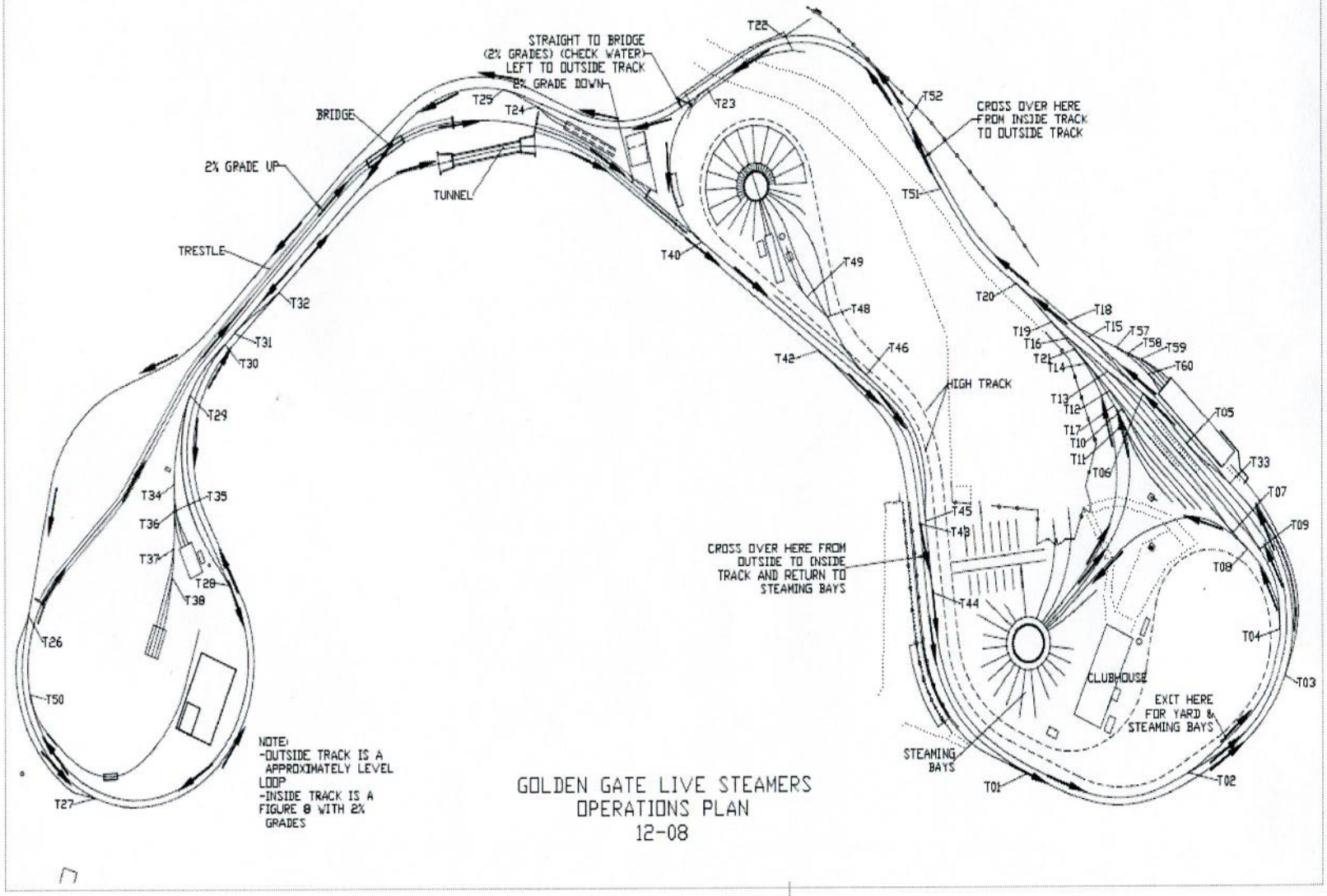
GGLS Track Plan



Steam Locomotive Wheel Arrangements

The following table lists the wheel arrangements and names of a number of the best known steam locomotives. This classification system was developed by F. M. Whyte. The wheel arrangment consists of the number of leading wheels, the number of drivers, and the number of trailing wheels.

Arrangement	Whyte Classification	Name
OO	0-4-0	Four-coupled
OO-OO	0-4-4-0	Articulated
OOO	0-6-0	Six-coupled
OOO-OOO	0-6-6-0	Mallet
OOOO	0-8-0	Eight-coupled
OOOO-OOOO	0-8-8-0	Angus
OOOOO	0-10-0	Ten-coupled
OOOOOo	0-10-2	Union
oOOo	2-4-2	Columbian
oOOO	2-6-0	Mogul
oOOOo	2-6-2	Prairie
oOOO-OOOo	2-6-6-2	Articulated
oOOO-OOOoo	2-6-6-4	A-Class
oOOO-OOOooo	2-6-6-6	Allegheny
oOOO-OOOO	2-6-8-0	Articulated
oOOOO	2-8-0	Consolidation
oOOOOo	2-8-2	Mikado
oOOOOoo	2-8-4	Berkshire
oOOOO-OOOO	2-8-8-0	Bull Moose
oOOOO-OOOOo	2-8-8-2	Chesapeake
oOOOO-OOOOoo	2-8-8-4	Yellowstone
oOOOO-OOOO-OOOOo	2-8-8-8-2	Triplex
oOOOO-OOOO-OOOOoo	2-8-8-8-4	Triplex
oOOOOO	2-10-0	Decapod
oOOOOOo	2-10-2	Santa Fe
oOOOOOoo	2-10-4	Texas
oOOOOO-OOOOOo	2-10-10-2	Mallet
ooOoo	4-2-4	Huntington
ooOO	4-4-0	American
ooOOo	4-4-2	Atlantic
ooOOoo	4-4-4	Reading
ooOO-OOoo	4-4-4-4	Duplex

ooOO-OOOo	4-4-6-2	Articulated
ooOO-OOOoo	4-4-6-4	Duplex Drive
ooOOO	4-6-0	Ten wheeler
ooOOOo	4-6-2	Pacific
ooOOOoo	4-6-4	Hudson
ooOOO-OOoo	4-6-4-4	Duplex Drive
ooOOO-OOOoo	4-6-6-4	Challenger
ooOOOO	4-8-0	Twelve Wheeler
ooOOOOo	4-8-2	Mountain
ooOOOOoo	4-8-4	Northern
ooOOOO-OOOOo	4-8-8-2	Cab Forward
ooOOOO-OOOOoo	4-8-8-4	Big Boy
ooOOOOO	4-10-0	Mastodon
ooOOOOOo	4-10-2	Overland
ooOOOOOOo	4-12-2	Union Pacific
oooOO-OOooo	6-4-4-6	Pennsylvania
oooOOOOooo	6-8-6	Turbine

TYPES OF STEAM LOCOMOTIVES

Steam locomotives are basically categorized by their wheel arrangements. As an example, we will consider a 4-4-2. Working from the front of the engine, the first number given is the number of wheels in an un-driven set (which are wheels that support the engine but do not provide motive power.) The second number is the number of driven wheels and it is through these that the power of the engine is transmitted to the rails. The last number is the number of wheels that support the engine at its rear end. Note that each of these numbers is the number of wheels in that set, given that there are two wheels on each axle the number of axles is half the number of wheels.

The first set of wheels may not exist in some types of engine, thus an 0-4-0 has only four wheels, all of which are drivers. Similarly a 4-4-0 has no non-driven wheels at its rear end. If you consult the accompanying table of wheel arrangements it may seem bafflingly complex but this is only an indication of how many different types of engines that have come from the imaginations of locomotive designers.

Why are there so many different designs? Basically it is because the requirements that the railroads desire from the engines that run on their tracks differ enormously. A light local line, hauling just a few cars on a suburban route may be satisfied with a small 0-6-0 tank engine, while a main line freight, hauling hundreds of boxcars, may need a 4-8-4 monster.

The size of the engine is also governed by the 'loading gauge' which is the cross sectional 'profile outline' that determines the restrictions on how big the engine (and the loads that it carries) can be. It wouldn't be of much use having an engine that couldn't pass through a tunnel on the company's line, even if it could go everywhere else. This is the main reason that locomotives built in different countries differ so much in size, even though the track gauge is the same in most of them. A typical British mainline locomotive is dwarfed by a typical American mainline engine for this reason. As a general rule, steam locomotives on American railroads reached much larger sizes than the European ones did, because of the differing loading gauges. This came about because there were so many existing structures near the railroads in Europe, before the railroads developed, it would have been very expensive to modify all of them to suit the new machines that were passing by them.

By contrast most of the American lines were built before many structures were built near them, in fact the railroads were often given right of way to the land that ran alongside their tracks and were thus in total control of the size of their locomotives, it was an engineering decision as to what size they were, not a legal one.

There are other differences between types than size and wheel arrangements. A locomotive consumes large quantities of water and fuel as it rolls along the track and these have to be contained, either on the locomotive itself, or nearby. Thus two basic fuel and water carrying systems are employed for these purposes. 'Tank' engines carry their water in tanks that are either placed alongside the boiler, one on each side, or in a tank that straddles the boiler, in which case it is called a 'Saddle Tank' engine. Most engines of these types are relatively small and are used on suburban lines, or on industrial sites, though in Europe, and elsewhere, the larger tank engines are sometimes used over longer distances.

Similarly, the fuel for these engines has to be carried somewhere and tank engines usually have a 'bunker' behind the cab where the fuel (usually coal) is stored. This is one of the primary restrictions of tank engines for it is difficult to provide a large enough fuel storage space without the overall design becoming unwieldy.

By far the largest majority of steam locomotives carried their fuel and water in a 'Tender', separate from, but coupled to, the rear of the engine. Since there is no real physical limit to the size of the tender, those used on the long distance lines, crossing territory largely devoid of water and fuel supplies, sometimes grew to an enormous size. Even so, it was found necessary to establish supply points along the line for these items and they often grew into small towns, entirely dependent upon the railroad for their existence. In highly populated areas, there were usually plenty of places where fuel and water could be obtained, so the need for a really large tender did not exist, another example of the machine being adapted to the local demands.

ARTICULATED ENGINES

The longer the wheelbase of the coupled wheels, the larger the radius of a curve has to be before some of the wheel flanges bind against the insides of the rail heads, to the point where such an engine would be unusable on a line with that curve. Yet it is on such curving mountain grades that the power of a large engine is required. The solution to the problem is to use an articulated engine, in which the rigid boiler is supported by two separate chassis, each containing the cylinders, motion work, etc. of a single locomotive. For all practical purposes it is two locomotives supporting a boiler that supplies the steam for each. This leads to wheel arrangements of the 2-6-0 - 0-6-2 kind, in effect two engines back to back, each engine swivels under the boiler.

There are other kinds of articulated engines, most notably the 'Garrett', which does have two completely separate locomotive chassis, coupled by the boiler, that spans between

on

the front chassis, while the fuel supply is stored in a tank, or hopper, on the rear chassis. These engines can be run equally well is either direction since the operator sits in the middle of the whole assembly.

GEARED LOCOMOTIVES

Locomotives, in general, cannot climb steep grades without the steel wheels slipping on the steel rails, a limit to traction. To overcome this limitation engines were designed that drove all of their wheels, not just the main driving wheels, this was accomplished by gearing all of the axles together. This is not possible with the conventional arrangement of cylinder axes parallel to the axis of the boiler, driving the wheels through connecting rods. So, several other arrangements were used, all of them differing greatly from the standard locomotive design. The most widely used arrangement was the 'Shay', in which a vertical multi cylinder engine (usually three or four) was placed alongside the cab, with it's crankshaft centerline coinciding with that of the wheels. From each end of the crankshaft articulated shafts ran fore and aft, connecting to each axle via bevel gears. Thus driving all of the load carrying wheels, rather than just the driving wheel set of conventional designs.

Two other geared engine designs were commonly used, the 'Heisler' and the 'Climax'. The Heisler used a twin cylinder 'Vee' engine mounted under the boiler, with the cylinders poking out from each side. It's crankshaft drove fore and aft articulated shafts located on the centerline of the engine, each one coupled to the geared trucks.

The 'Climax' engine had two separate cylinders, one on each side of the boiler, that coupled to a crankshaft, running across the frame, via conventional connecting rods, and that was connected to the geared trucks in a similar manner to that of the Heisler.

What all of these designs accomplished was to provide a locomotive that could cope with roughly laid tracks, tight curves and steep grades, situations common to logging operations and in fact almost all geared engines were used for that purpose. They were too slow for main line operations and as steam equipment was gradually replaced by internal combustion driven designs, they faded away. But they do provide interesting designs to model and Shays in particular are frequently seen at GGLS meets, and other times, even though there is no track of a steep enough grade that would require a geared engine!

COG RAILWAYS

There are places in the world where even a geared locomotive could not surmount the steep grades, usually in mountainous country, wheel to rail traction could never provide the ‘grip’ that would allow the engine to climb the grade.

The solution to the problem was to provide a rack, between the rails, that was engaged by a ‘cog’ wheel mounted under the engine. This meant that the engine and track were both part of the same mechanism, so that, not only could the engine surmount the grade but that it could not slide back down it, a considerable safety factor!

The earliest cog engines were steam driven and had to overcome considerable difficulties, such as the water in the boiler shifting position as the engine changed from flat ground to the steep grades. Nowadays of course all modern cog engines are either electrically driven, or have diesel engines, neither of which is troubled by grade changes. It is highly improbable that you will see a model of a cog railway engine at a GGLS meet!

ENGINES ON THE TRACKS

Whenever the weather is fine, and sometimes when it is not, a visitor is likely to see a variety of engines on display as they get ready to run on either the high, or the low, tracks. Most of these engines are ones that are owned, and possibly constructed by, the members preparing them.

Although the general public is not allowed into the steaming bay area, for safety reasons (the engines can be very hot, when steamed up, and hazardous to the touch) questions can be asked of the owner of the engine, if the visitor is close enough to him.

Even if that is not possible, using the table of wheel arrangements and the written description of types in this booklet should allow the visitor to identify any particular engine type.

The pictures on the following pages are just a small sampling of the engines that one might see at the GGLS track, for all of them were taken at the track at one time or another.

It should be noted that 'Meets' are held several times a year (Spring, Fall, etc.) when a large number of engines are likely to be on display, including those brought by members of other clubs.

ENGINES SEEN AT THE GGLS TRACK

3 1/2” GAUGE ‘AMERICAN’

A ‘KEN BRENEMAN’ ENGINE

BRITISH STYLE ENGINE

3 1/2” GAUGE HEISLER

‘TOMMY’ THE TANK ENGINE

BILL SMITH’S HIGHLY POLISHED ENGINE

MEL RUNNING ON THE HIGH TRACK

KEVIN'S 'MORTIMER'

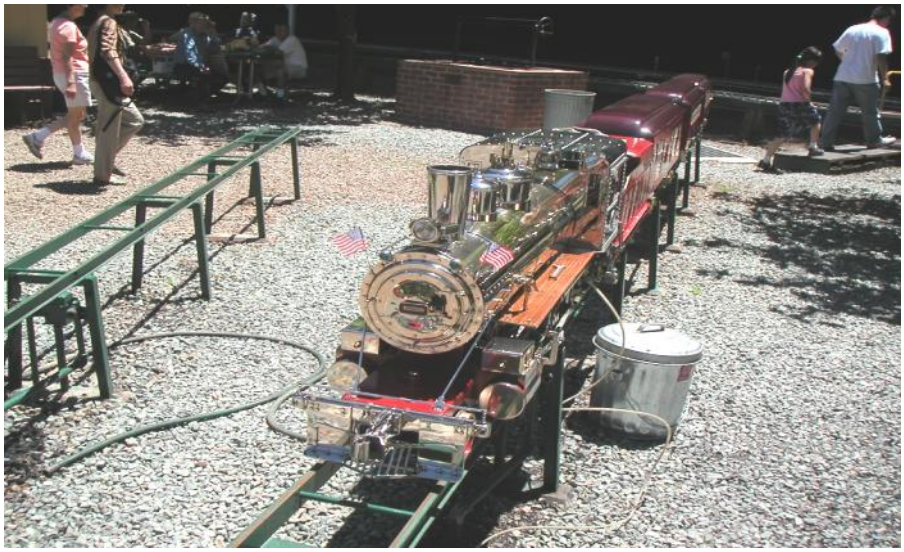
A TYPICAL 0-6-0 TANK ENGINE

AN ENGINE UNDER CONSTRUCTION

A 2-4-0 CHASSIS ON DISPLAY

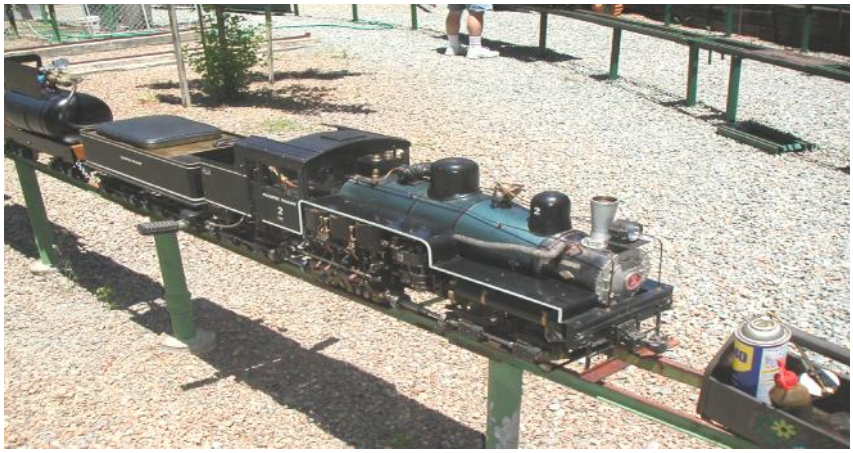
WE DO RUN DIESELS TOO

A VERY COLORFUL ENGINE



GETTING READY TO RUN

A 4-6-0 UNDER CONSTRUCTION



A 4 3/4” SHAY ON ONE OF THE STEAMING BAYS

Editor's Notes

Although this booklet is intended as a concise record of the 'Golden Gate Live Steamers'history of achievements, over the first seventy five years of its existence, for its members, it may also be of interest to those members of the public who observe our workings and ride on our trains.

While at the track I am certain that any of our members who happen to be there at that time will be happy to answer any questions that you may have about the club and its operations. The 'Station Master' will be able to answer some of your questions, while he is directing the passengers on and of the trains and probably be able to direct you to someone with more detailed knowledge, if you require it.

Using the Internet,you can connect to our web site: (www.ggls.org) for a vast amount of information about the club and its activities, including the times of the 'Meets' which are events, held several times a year, when a large number of engines are likely to be seen at the track, steaming and running.

Also available at the GGLS site are a number of short videos, depicting acitivity at the track, and at tracks in other parts of the world.

Should you wish to join our club, contact any member who is available to you and he or she will be able to get you a copy of our membership recruitement form.