



Garden Railroading News

July/August 2022 • 2022 #4 • www.GRNews.org

Building a Funicular RR

National Summer Steamup

Historical Shortline Reimagined

A free digital magazine produced by garden railroaders for garden railroaders



Garden Railroading News

July/August 2022 • 2022 #4 • GRNEWS.org

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Regularly Scheduled

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How to Download a PDF & Customize Page View to Your Preference.
Magnifying GR News and the "Hamburger" Icon.





Seen On the Tracks



Photo by Rich Perrelli

Above: On a fine 4th of July, a brown bear catches trout (center), a curious black bear climbs on the trestle (right), and hobos celebrate in the shadow of the bridge (left rear) as Oyster Creek Scenic Railroad's holiday rail bus rolls past "Big Bear Falls" just outside the town of Oyster Creek. • San Diego, California

Below: The crew at Wayne Feeds prepares a pallet for shipment on this industrial spur of Doug Mayes' Colorado & Sparktown RR during the June 2022 National Garden Railway Convention in Denver. • Lakewood, Colorado



Photo by Ken Brody



*MAY
WE SUGGEST...
Something New*



It's Never Too Early to Make Plans to Attend a National Garden Railway Convention in the US or Down Under

Start 2023 with a trip to the 13th New Zealand Garden Railway Convention in Auckland, New Zealand. Over the weekend of 4, 5 and 6 February, 2023, there will be three days of workshops and layout tours. For more information, email: nzgardenrailwayconvention@gmail.com

Celebrate Fourth of July in 2023 with fireworks during the 38th Annual National Garden Railway Convention, July 1 to 8, 2023, in Santa Clara, California. The Bay Area Garden Railway Society (BAGRS) is planning an unprecedented array of activities, from a multitude of layouts to visit, incredible dining and food opportunities, including a return to the always-popular Roaring Camp BBQ, a variety of clinics and workshops, and multiple "meet and greet" opportunities. Convention information and registration can be found at: www.NGRC2023.org



**38TH NATIONAL
GARDEN RAILWAY
CONVENTION**
JULY 1 - 8, 2023
HYATT REGENCY, SANTA CLARA, CA
SANTA CLARA CONVENTION CENTER

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BBQ & TRAIN RIDE AT ROARING CAMP RR
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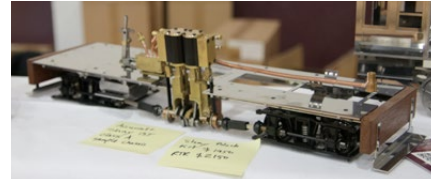


Stay tuned for developments for 2024. A presentation for a New York-based set of layout tours was sketched out at the Denver 2022 NGRC banquet. Details may come sometime soon. If not, 2024 may be your year to organize a Regional Tour in your area.

The Sacramento Garden Railway Society bid to hold the 2025 National Garden Railway Convention was accepted at the Denver banquet. Sacramento hosted in 1993 and 2003. Look forward to an entertaining set of layouts and a chance to visit the California Railroad Museum, among other activities in 2025.

Accucraft Displays Stainless Steel Construction of Upcoming 2-Truck Shay and JNR Benkei Mogul

At the National Summer Steamup in Lodi, California, Accucraft and Aster Hobbies displayed the chassis for their 2-truck Shay expected in December 2022 and a partial build for the upcoming Japanese National Railway 2-6-0 Mogul "Benkei." Both live steam models are constructed in stainless steel with brass cylinders.



The Shay can be pre-ordered in black or green as a kit or ready-to-run at: livesteamstation.com

The 2-6-0 Benkei was made by H.K. Porter Inc and imported to Japan in 1880 to run on the Horonai Railway on Hokkaido. The JNR Class 7100 locomotives were in service until 1917. Livesteamstation.com will soon have information on the Benkei production status.



Jonathan Meador Retires from PIKO America

Jonathan Meador, who has led PIKO America for years, has retired. We in the garden railroad community wish Jonathan a rewarding retirement, thank him for his constant support for G-scale and American garden rail, and look forward to his continued activities in our hobby.

PIKO America Hoppers Ready for Halloween Treats

Pre-order now for September/October delivery of this year's limited edition Halloween Hoppers and Ore Cars. Glow-in-the-dark highlights are the trick during night time runs to deliver treats from your holiday train.



38932 Halloween Howler Ore Car 2 Pack



38936 Monster Mayhem Hopper



& 38937 Tacky Tombstones Hopper #2

New items (both European and American prototype) will be arriving this fall and winter. More information at:

www.piko-america.com

RhB Plans a Guinness Book World Record Longest Passenger Train Attempt; Märklin/LGB Plans a G-Scale Commemorative Locomotive

On Saturday, October 29, 2022, as part of the 175th anniversary celebrations of Swiss railroading, the Rhaetian Railroad (RhB) is undertaking an official Guinness Book of Records attempt to run the longest passenger train in the world. The 1,910 meter/6,207 foot 6 inch long train with 100 cars is to roll on the UNESCO Albula/Bernina World Heritage Line from Preda to Bergün and further across the Landwasser Viaduct. The longest passenger train in the world will be composed of 25 auxiliary-powered, automatically-coupling, four-rail-car trains of the new "Capricorn" type.



21431 Class Ge 4/4 III Electric Locomotive- RhB World Record Attempt Paint Scheme

Märklin, Inc./LGB America plans to deliver a model of the Capricorn electric locomotive powering the RhB world record attempt in late 2022. Carrying RhB road number 644 and a special paint scheme, the locomotive will include a mfx/DCC decoder with multiple light and sound functions. The pantographs, powered by servomotors, can be digitally controlled. For more information:

www.lgb.com/lp/22/worldrecord

LGB America Brings POLA G Building Kits & Accessories Back

Märklin, Inc./LGB America will soon be stocking POLA G-scale building kits and accessories starting in October. Modelers can purchase from their favorite LGB dealer. Pola G building kits and accessories are manufactured by Faller, a German company which manufactures products in a variety of scales for model railroad layouts. Märklin /LGB is starting with about 85 different Pola G items, including a wide variety of building kits, figures and add-on accessories to enhance a layout and bring it to life. Items such as a smoke generator for "burning" structures and Pola G Cement for gluing building together will also be available.



For more information, contact: customerservice@marklin.com

Garden Railroad Layouts on Tour; Check your Local Area Clubs For Open House Dates or Fair Displays

GR News Region 3 Advisor Sue Elliott has been busy with a Minnesota Garden Railway Display at County Fairs around the state. Gary Olmstead and a crew from California's Gold Coast Garden Railway Society are building a landscaped garden pavilion display that will run trains for two weeks at the Ventura County Fair.



Tracks are in; plantings are next in Ventura.

Columbus Garden Railway Society is planning their Annual Backyard Tour for the afternoon of Sunday, Sept. 11, 2022, and info will be at: www.thecgrs.org



Check the websites/Facebook pages of G-Scale train clubs in your area [see page 39] for garden train open houses and layout displays to visit.

Visit Columbus, Ohio Open Houses in September.



Garden Railroading News Introduces our Region 5 Advisor

Ken Brody will be providing feedback from affiliated clubs in Region 5, Northwest North America, covering Northern California, Oregon, Washington, Idaho, Wyoming, Montana & Western Canada. He is the contact for 23 clubs with 1,400 Members

Ken is an avid garden railroader with a lovely layout in Santa Rosa, California. He is a member of the Redwood Empire Garden Railway Society and has edited the society's monthly newsletter for many years. Ken is also a member of the Bay Area GRS and serves as 'Superintendent' for the society's Golden Gate District which embraces members north of the Golden Gate Bridge. He is the 'glue' that holds the community of garden railroaders beyond the Golden Gate together, a tireless volunteer and proactive communicator. He is a keen GR photographer. His images appear on our social media platforms including our new YouTube channel.

Ken's railroad is 'The Westie Line,' named after his much loved dogs.



Garden Railroading News

Region 5 • www.GRNews.org

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20283 Durango & Silverton Mogul Steam Locomotive

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Cars have complete interior details and metal wheelsets



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Passenger Car**



**36820 D&S RR
Passenger Car "Prospector"**



**36808 D&S RR
Passenger Car "Yankee Girl"**



**30261 D&S RR
"Rio Grande" Open-Air Observation Car**

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Seventeen Tracks, No Waiting: 2023 National Summer Steamup in Lodi, California

By Carla Brand Breitner

The stats on this issue's featured layout are a bit odd. This railroad has appeared annually most years since a single oval went up at the Paso Robles Fairgrounds in October of 1996. Over the years, the number of ovals has grown to eight. There are seventeen 45mm tracks, two of which also can run 32mm trains. The National Summer Steamup has moved from hotel courtyards to various buildings at McClellan Air Base in Sacramento, and currently pops up at the Lodi Grape Festival Fairgrounds. Live Steamers from around the world come to enjoy the camaraderie at this event.

The variety of live steam trains brought to show and run ranges from Accucraft, Aster, Regner, Roundhouse and Wuhu-Bowande equipment to small-run items like the UK builder Mike Chaney's Catatank Shay. Steamers bring their own shop-built engines as well, ranging from Rob



Gary Woolard's Accucraft Grass Valley American pulls a packed open gondola tourist train.

Lenicheck's coal-fired Uintah 2-6-6-2 to a variety of BAGRS basic project engines and Bob Sorenson-designed 0-4-0 mini-engines. Bill Allen generally runs his growing collection of scratch-built locomotives, including a C.P. Huntington, Blue Comet, 4-cylinder Heisler and several Garratts.

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Multiple tracks to run trains, multiple work tables to prepare and repair trains, multiple groups observing the train activity—and friends like Jim Goss and Joel Taylor catching up on the last year's news—make every National Summer Steamup fun.



A 1:20.3 Accucraft coal-fired C-25 D&RGW #375 pulls a freight consist (foreground) as a British passenger train behind a 1:32 Flying Scotsman approaches the bridge.

Tracks are available sixteen hours a day for four days, allowing every steamer time to run trains and time to visit with other steamers. This year 89 steamers brought trains to run, 18 observers came to visit and photograph the activities, and 24 guests came by to enjoy the trains for a day. Steamers coordinate runs, setting up on the many ready tracks, so that, as a train finished its run, it left the track clear for an engine that had come up to pressure and was ready to run.

This year's Summer Steamup saw numerous coal-fired engines, interesting custom 7/8ths consists, and regular steamers giving lessons and tips to this year's newcomers. Clinics ranged from valve timing through 3D printing, the stationary steamup also included steam trucks and tractors, and the potluck barbecue closed the Steamup with food and friendship. See for yourself next year.



This live steam plantation engine is a modified Ruby.



Buzz Barry fuels his Grasshopper with alcohol.



A Fort Wilderness engine, also based on a Ruby, under steam.



Chuck Lawrence works on his Regner steam tractor.



Rob Lenicheck's hand-built, coal-fired Uintah Railway #50 articulated locomotive pulls up alongside Ron Sickler's Cal. Powder Works work train.



Duc Nguyen checks on his Daylight during a run.

continued on next page



Phil Oldenhage and his grandson run his 7/8ths Emma pulling a Dave Frediani-built consist.



Jack Slovacek checks the firebox as his dad, Joe, sets freight cars on the ready track.



Jim Hague, Lew Breon and Garrett Paine (with Garratt locomotive) examine something(?) hidden behind a West Side Lumber Co. Heisler with logging consist.



Craig Griffin adds coal to the firebox of a K-28 during a lesson in coal firing from Rob Lenicheck.



Larry Staver fuels John Polen's Aster Western Maryland Shay #6 pulling prototypical coal gondolas; Pete Comley looks on.

continued on next page



Channing Cheng of Accucraft (Steamaholic on YouTube) is filmed preparing to run the Accucraft butane-but-blower-required C-18 Consolidation, coming soon.



While Channing ran the new Accucraft Mabel 0-6-0T engine, he answered questions from some of the younger steamers. Left is Peter Ronney; right is Colton Snell.



Chuck Wagner enjoys sitting down to run his SF Giants Sorenson Titus on the child-height Little Brown Track.



Glen Simpson of the Simpson Track looks on as David Lindholm and Robert Kuehler make an adjustment to a part of Robert's custom 7/8ths train pulled by a Fairymead.



Detailed interiors were a highlight of the NSS 2022.



Bob Sorenson and Zach Johnson discuss Zach's smooth-running USRA 0-6-0 Switcher as Bob sets up his Titus.



Steve Heselton and Joel Taylor prepare to add coal to their double-header D&RGW freight train.

continued on next page



Rich Nelson adds water to his Shay on the first night.



Phil Huntingdale waits to set his Southern Pacific Slim Princess on the ready track siding while Mike Williams adjusts the drivers on his Union Pacific Big Boy.



Stacy Reese checks on her newly acquired D&RG "Col. Boone" American; Donna Keene observes as Curt Keene looks at an approaching train.



John Polen and Pete Comley adjust John's coal train locomotive as Pete's British coal train passes by.

Ron Brown Memorial Steamup Enthusiasm Award

Ron Brown loved little live steam locomotives. For thirty years, he visited steamups and promoted 45mm rail. He founded *Steam in the Garden* magazine and helped develop the Catatunk geared engines. When Ron passed away at the young age of 70, he was called "the quintessential live-steam evangelist."

The organizers of the National Summer Steamup joined with the group that continued publication of *Steam in the Garden* magazine to co-sponsor a perpetual placque in Ron Brown's honor, to be awarded annually at the Summer Steamup to the individual who showed best how to have fun and share their enthusiasm for playing with trains.

This year's winner, selected by the volunteers who run Steam Events LLC, was your *Garden Railroading News* editor, Carla Breitner. Your editor was shocked, surprised, and speechless at the honor. I would like to thank everyone at Steam Events and at the National Summer Steamups who have tolerated my picture taking and my questions over the many years I have attended. It's not hard to be enthusiastic in such great company.



Chris Coley holds the Ron Brown Memorial Steamup Enthusiasm Placque as 2023 award recipient Carla Breitner, camera in hand, smiles in surprise.

Photo by Rick Parker

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Southern Pacific P8
1:32, Alcohol or Butane
Kit \$3995, RTR \$4495



LNER B1
1:32, Alcohol Fired
Kit \$3100, RTR \$3600



USRA Mikado Heavy
1:32, Alcohol Fired w/ 6 Free Cars
Kit \$4400, RTR \$5500



GWR 43xx 2-6-0
1:32, Butane, Green and Black
Kit \$2695, RTR \$2895



N&W 4-8-4 J-Class
1:32, Alcohol Fired or Electric
Alcohol \$5950, Electric \$5250



Adams Radial Tank
1:32, Butane Fired
Kit \$1995, RTR \$2160



Tiger 0-6-0 with Tender
1:32, Alcohol Fired
Kit \$3250, RTR \$3800



Kerr Stuart 'Victory'
1:32, Butane Fired
RTR \$1100



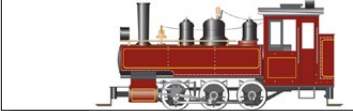
D&RGW C-25
1:20.3, Coal or Butane
RTR \$5250



D&RGW C-18
1:20.3, Butane Ceramic
\$3200-\$3600



Baldwin "Mabel" 0-6-0T
1:20.3, Butane Fired
Kit \$1249, RTR \$1499



Ruby #1 0-4-0T
1:20.3, Butane Fired
Black, Red, Blue and Brown
Kit \$649, RTR \$699
New 2022



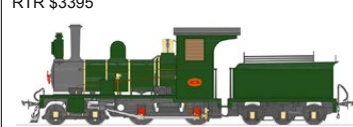
Dora 0-4-0T
1:20.3, Butane Fired
Black, Maroon, Blue & Green
RTR \$499



'Cranmore' Peckett
1:19, Butane Fired
Kit \$1695
RTR \$1795



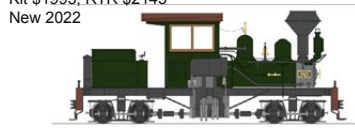
Lawley 4-4-0
1:19, Butane Fired
RTR \$3395



"Tallylyn" Railway 0-4-2ST
1:19, Butane Fired
RTR \$1700



Shay 13T
1:13.7, Butane Fired
Kit \$1995, RTR \$2145
New 2022



Forney SR&RL & WW&F
1:13.7, Butane or Coal
Butane \$3200, Coal \$4200



"Train Bleu" CIWL Sleeper J&M Models
1:32, Brass
\$950/Car, \$3800/Set of 4



BR Mk1 Passenger Cars
1:32, Plastic body, Metal Trucks
\$295/Car



L&SWR Coaches J&M Models
1:32, Brass
\$800/Car, \$3040/Set of 4 Cars



Jackson & Sharp Coach AMS
1:20.3, Ball Bearing Trucks, Lighting
\$295/Car



Logging Disconnects AMS
1:20.3, Plastic Body, Metal Trucks
\$135/Car



Gondola AMS
1:20.3, Plastic Body, Metal Trucks
\$170/Car



GP60/GP60M AML
1:29, DCC & Sound Option
\$599 Base model, \$799 Sound



3-Bay Hopper AML
1:29, Plastic Body, Metal Trucks
\$160/Car



High Cube Box Cars AML
1:29, Plastic Body, Metal Trucks
\$160/Car



Allchin MAXITRAK
1.5" Scale, Butane Fired
RTR \$3800



Austerity 0-6-0T MAXITRAK
5" Gauge
Kit \$5800 RTR \$6050



RGS #6 Goose
2.5" Scale, 7.5" Gauge
\$4950



2-4-0 7.5" Gauge Ride-on
2.5" Scale, Coal Fired
Kit \$15000 RTR \$18000



Code 332 Rail
Brass and Alum Rail System





CLUB CORNER

Curated by Bill Derville, Past President
Rose City Garden Railway Society • Portland, Oregon

Last month, I discussed our club's Summer Tour open to the public. We also hold occasional layout tour days for club members.

Most garden railway clubs do not have a central meeting place. Instead, they hold meetings and events at members' homes where trains run, lunch or snacks are served, and club members have a chance to see different layouts. This is a standard practice with most clubs. It's a great way to show off club railroads to members and gives individuals a chance to run trains on different layouts if the host invites visiting equipment.

In our club in Portland, only about a third of our members have an active layout, and most have never built a layout. They join our club for the social aspects of the hobby and enjoy seeing and participating in running layouts of other members. Sometimes they bring their own equipment, and sometimes they use the equipment provided by the host. The host also provides drinks, cups, and plastic eating utensils. For this, the club gives the host \$25 to defray expenses. If the host provides a main course, then they receive \$75 to cover that cost. Usually it is a potluck, but due to COVID, sometimes it is a picnic where everyone brings their own food.

The summer season is short for clubs in the northern part of the United States. In Oregon, June to October are the only months we have garden events outside with layouts open and running. Since our club usually has only one event per month at a member's home, most members only get to visit five home layouts per year. Many of the layouts are small, and members do not want to host a formal club event.

When we hosted the 2019 National Garden Railway Convention, we had fifty-one layouts on tour. Most of our members had never seen most of these layouts, and since our members were working convention jobs during the event, they were unable to visit any of these newer layouts.

So, we started setting up a day of club tours of layouts. We pick four to six layouts in an area and schedule the layouts to be open for only about an hour, allowing hosts to go on the tour to other layouts. Start and end times overlap between adjacent layouts on the schedule providing visitation flexibility. The rolling schedule starts at 9 am and concludes with a potluck or picnic lunch at one of the larger layouts. We only do one per year and choose a different area to tour each time.

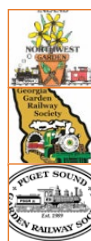
A sample schedule follows:

- Layout A Open 9am to 9:45am
- Layout B Open 9:45am to 10:30am
- Layout C Open 10:15am to 11:30 AM
- Layout D Open 11am to noon
- Layout E Open noon- Potluck

This is a great way to see some of the smaller layouts that would not consider hosting a club event with all the work that entails. Staffing the limited hours at each layout is a short time commitment. People use GPS to find the layouts, but we send out driving instructions via e-mail just in case.

This is not an original idea. The idea came from BAGRS, the Bay Area Garden Railway Society, host for the 2023 National Garden Railway Convention next year.

Share your ideas with me by email at bill@derville4.com — and your club's experiences may be in a future column.



Telling the Tale of the Track Craig & Diane Smith's Ilwaco Railway & Navigation Company

By Craig Smith,
Valleyford, Washington

While vacationing on the Washington coast just over a year ago, I realized that right in front of me was the perfect prototype railroad for my basement. I had read an Arcadia Publishing book about the Long Beach Peninsula at the mouth of the Columbia River in Washington. In it was a description of a railroad that had its start in 1888 and pulled its last train in 1930. The Ilwaco Railway and Navigation Company began in Ilwaco and ran 13 miles up the Long Beach peninsula to Nachotta on the Willapa Bay side of the peninsula. Its primary haulage was oysters from the bay and lumber.

In my imagination, when trucks and roads threatened the short line, a well-heeled man came along with the intention of keeping the railroad alive and it became a hobby for him. It is now approximately 1960 and the tourist town of Long Beach has embraced the idea of continuing the railroad much as it was preserving some of the town's original structures.

The merchants have made the towns on the peninsula increasingly appealing, with farm goods available as well as the well known, locally-produced oysters. Visitors can explore antique implement "museums" or fly kites on the 28-mile long beach.

The new owner has even built an extension to the outside world that never existed before, heading through Raymond to South Bend along the east side of Willapa Bay as well as dredging Baker Bay to allow boats to arrive at the wharf regardless of the tides. The line is now standard gauge, with both steam and early diesel, as well as redone "Galloping Geese" known now as "Galloping Gulls." A dinner train graces the rails.

I have completed (if there is such a word for model trains) the first two towns along the route, Ilwaco and Seaview. The third and largest town, Long Beach, is now under construction using kits from various makers, as well as some repurposed and modified PIKO buildings.

continued on next page



Ilwaco Passenger Station



Ilwaco Railyard Support Sheds.



Ilwaco Freighthouse awaits a shipment.



Ilwaco Wharf; Ilwaco Turntable can be seen beyond downtown's buildings.



Downtown Ilwaco



Ilwaco Two-Store Roundhouse & Turntable



Ilwaco Rail Yard Switch Tower

GR News would like you to share the story of your railroad.

Send your *Tale of the Track* to editor@grnews.org with illustrating images — and your railroad may be the next *Tale* told.



Seaview Passenger Station. A farm field is being plowed in the distance.

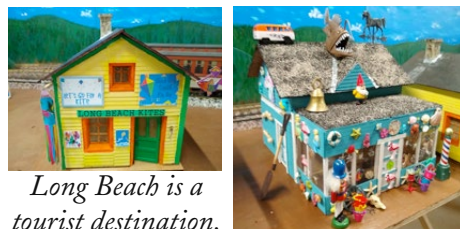


Seaview Shelburne Inn

The point-to-point railroad fills a portion of a 27x12 foot room, bends into a U shape across 12x7 feet of another room, and re-enters the first room to run 20 feet along the inside wall, completing a scale 13 miles of the original railroad. Backdrops of the surrounding forests have been hand painted.

There will be turntables on both ends. The Ilwaco turntable is already installed near a small two-stall round-house. The Ilwaco rail yard features both passenger and freight stations and an engine servicing facility for both steam and diesel. Trains pass a farm and cemetery on the way to Seaview, complete with station, hotel and restaurant.

The next town, Long Beach, has its lumber yard, kite shop, bar, bakery,



Long Beach is a tourist destination.



and bed & breakfast, as well as a shoe shop. The rest of the layout is yet to be completed.

It has been an excellent journey so far, with a research visit to a restored rail-car and the local museum display of the railroad, as well as reading books and magazines about the railroad.

There is much to be said for an indoor layout in our part of the country; no snow, no rain, and weeding is a thing of the past. I can work early or late and am not on my knees. Hooray!! I am pleased with the results so far.

The Ilwaco Railway and Navigation Company is a point to point operations rail line, so no real sitting back and letting it run—but I enjoy making up the train, working on the switch list, and getting goods to their destination. I hope you enjoy the Ilwaco Railway and Navigation Company as depicted in my imagination in 1960.



Forest/sky vistas are hand painted.

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Repurposing PIKO Buildings for the Ilwaco Railway & Navigation Company in G Scale

By Craig Smith,
Valleyford, Washington

PIKO buildings are substantial, weather resistant, and often European in design. A member of our Inland Northwest Garden Railroad group was disposing of his buildings as he was changing scales. I was gifted twelve buildings. I am building an indoor railroad based on the Ilwaco Railway and Navigation Company. The European style buildings did not fit with the locale or era. I decided to repurpose them to fit into my scheme.

I had received the lower half of a PIKO switch tower with the second story missing. I made a 45 degree angle roof of thin mahogany plywood and covered it with corrugated roofing material resembling aluminum roofing. It is available from MicroMark as was all of the material for the rebuilding. I sanded down the brick arches over the windows and the sills with a drill-mounted sander. One has to be careful as the plastic becomes hot and may come loose. Eye protection is important.



Once the surface was more even, I cut board and batten to fit the sides and glued it in place with GOOP. It now resembled a typical wood-sided building common to the era. Paint and signage completed the project with the addition of a wooden dowel chimney also painted aluminum. I turned it into the cranberry museum for the area as they are grown locally, and added the name of Ocean Spray. A real cranberry museum does exist in Long Beach, Washington, sponsored by the Pacific Coast Cranberry Research Foundation.



A new roof line, an awning and board & batten siding give this building a new look.

I repurposed the two story part of an L-shaped, brick building. A new roof was fabricated, eliminating the tile roof common to PIKO buildings. Window sills and protruding stucco were also sanded similarly to the cranberry museum building. Lap siding was used for the sides of this



building; then paint and signage turned it into the local kite store. Kite festivals are held in the local area and kites are sold in several places along the beach area.



A two-story house had the right roof angle and shape to become Marshs Museum [no apostrophe historically in 1960], an antique object "museum" (and gift shop) that entertains tourists in Long Beach to this day. With shutters removed, some windows filled in, and a porch added, I changed the

Siding, paint and signage attract tourists to this kite shop.



roof to tar paper and added colorfully painted siding. The final touches—shells, bells, roof ornaments, and more—capture the eclectic collection (and humor) of the real Marshs Museum.

The most time consuming and tedious part of the repurposing



was the sanding. Getting the roof angle correct is all about the look you want. Adding the siding to your preference helps make the most of your buildings. The best part of redoing stock buildings is the unique look it adds to your railroad. It would be advisable to protect your building changes with UV coatings for outdoor use. They are perfect for my indoor Ilwaco Railway and Navigation Company rail line.



GARDEN RAILROADING NEWS

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Our new YouTube channel will feature photo journals and videos of the wonderful World of Garden Railroads.

The first video posted, images of many railroads from the Denver National Garden Railway Convention, has more than 800 views.

We will also post short videos of individual garden railroads. A video from Jess Steven Hughes was the first up.

If you are interested in a wider platform for short videos of your garden railroad, contact Mick Spilsbury at marketing@grnews.org

Videos less than 3 minutes are ideal. We will rarely post a video longer than 5 minutes.

You can find the channel at:

<https://www.youtube.com/channel/UCmuyDnk2QRy1e1Q1AMFXrJw>

Building a G-Scale Funicular Garden Railway

By John Carmichael

In 2010, I finally had the time and resources to pursue a dream that started in the 1980s when I learned about garden railways. I wanted to make one. The internet and magazines taught me enough to get started. It was important to me as a horticulturalist to emphasize the garden part of a garden railroad. I designed the longest mainline that would fit in the available space at my home in Tucson, Arizona, without interfering with the largest plants. We named it the Cholla Patch Railroad because of the abundance of cholla cactus.

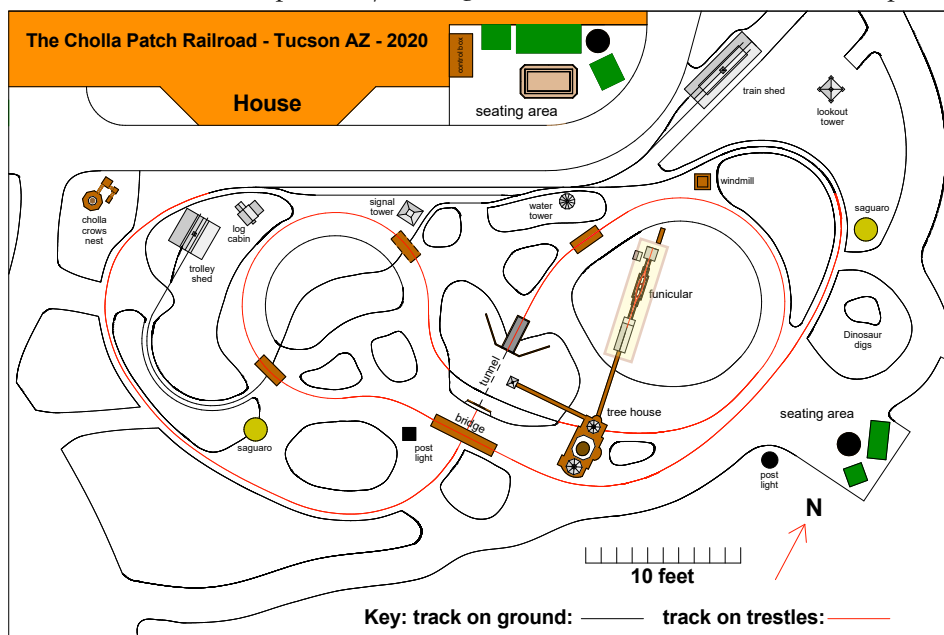
The result is a mostly trestle elevated pretzel shape design—like a dog bone folded back on itself. There's also a trolley line. Between the tracks, I made "rock islands" of native Catalina rocks and exotic desert plants, only leaving narrow foot paths next to the tracks for accessing the railroad. The hundreds of little people who inhabit the area have learned to coexist with the giant thorny plants and have even built a treehouse complex and other structures in them! There are vignettes everywhere.

By 2019 all the blank spaces had finished rock islands, except for the biggest island north of the treehouse near the center of the railroad. Something special had to go there. I had several ideas, but none of them were that great. Then, I stumbled across a video of a funicular, often called an "incline" in the eastern U.S. or a "cliff railway" in Britain. I had never heard of them as there are few in this country. They're wonderful!

In the 1820s, the mining industry used the first simple versions. Passenger versions began appearing in the 1850s, and many have been built since then. New ones are still being built. Long ones can travel over two miles and reach fantastic heights.



Funicular rises to a suspension footbridge that connects to the treehouse complex.



Tourists love them, so they are big money makers.

Merriam Webster says the first use of the English word "funicular" from the 1600s originally meant "relating to a cord under tension." All funiculars have two cars of nearly equal weight which are connected to each other by hooks and a single long cable. They move people and freight up and down inclines as steep as 45 degrees. Like ski gondolas, the cable goes around a large pulley at the top of the incline. Nowadays, most are powered by an electric motor connected by reduction gears to the large pulley (called a "drive wheel"). The great thing about this arrangement is that the cars balance each other so the motor has little lifting work to do. Some of the old



A multi-story treehouse resort on the Cholla Patch Railroad.

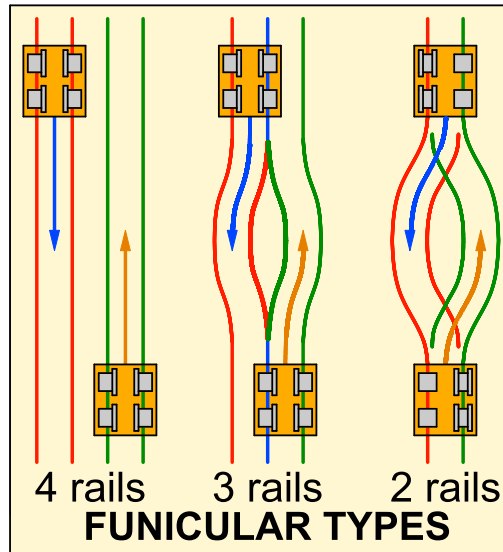
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Victorian ones used water to fill a tank beneath the floor of the car in the upper station. The added weight causes the heavier car to go down and the other car to go up. When the heavier car reaches the bottom, the water drains out and the process is repeated. A brakeman and braking system is needed on most full-size funiculars and on all water-driven ones to slow the stop.

There are three basic types of funiculars that differ only in track design: two rails, three rails, and four rails. The earliest ones were four rail (two track) funiculars, but they are the costliest to build because rails are expensive, they take up a lot of space, and they need double stations. More advanced three rail funiculars are less expensive but a little harder to build because they require a passing switch. The least expensive is the modern two rail funicular. They use less iron rail, don't need double stations, and occupy less real estate, but have the harder-to-build passing switch. This unique type of funicular was invented in 1890 by Swiss engineer Carl Roman Abt (1850–1933) for the Giessbach Hotel funicular which is still in operation. It was made possible by his innovative and revolutionary ABT passing switch—the only railroad switch without any moving parts! Abt called it the “automatic turnout” solution. It became an instant success and most funiculars constructed afterwards use the ABT design to this day.

Design & Construction: A G-scale funicular of any type would be a fantastic addition to the existing railroad area, but there was little information available online or in magazines. I was on my own. I used old photographs and videos, common sense and experiments to design and build the track and other elements.



Three types of funicular track design. Wheel flanges vary depending on track design.



2 Rail Horseshoe Curve Funicular Altoona, Pennsylvania.

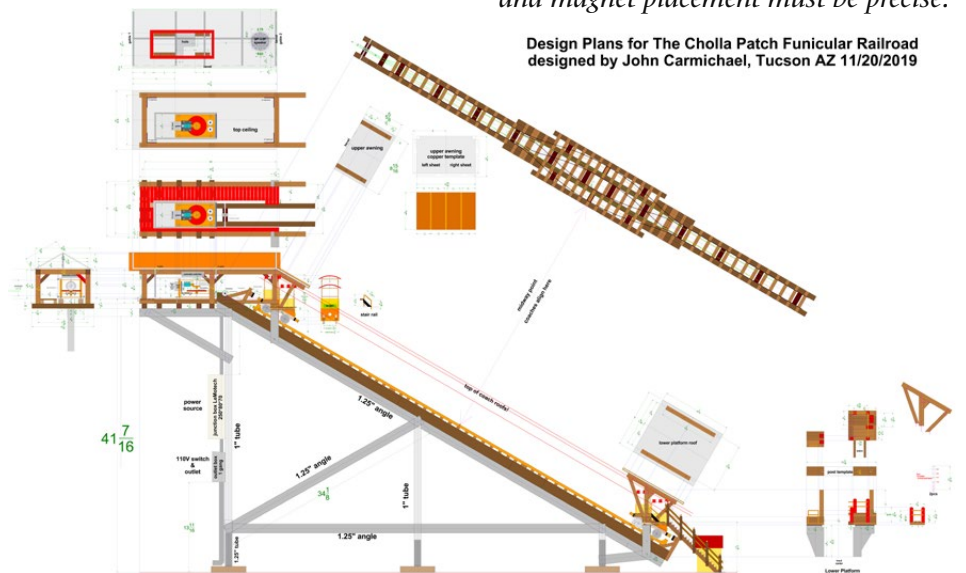
Photo by David Brossard, Creative Commons 2.0

The design required precision and CAD drawings to create. After two months of research and design, construction began and had to be equally precise. For example, the split-level cars had to stop exactly in line with the split-level boarding platforms, and the cable hooks had to pass through the exact center of narrow cable gaps in the switch.

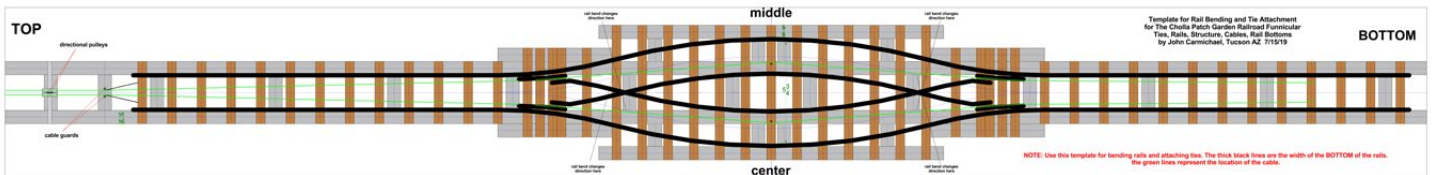


Wheels, cable hook and control magnet passing through lower ABT Switch. Hook and magnet placement must be precise.

Design Plans for The Cholla Patch Funicular Railroad designed by John Carmichael, Tucson AZ 11/20/2019



An early diagram of entire funicular structure.



John Carmichael's funicular track plan with ABT passing switch.

continued on next page

I built it in my studio on a sturdy iron support structure with composite wood footings. This was necessary because it would be almost impossible to build in place on a mountain since constant testing and design revision was required. After thorough systems testing, and coating the iron structure with Flex-Seal to prevent rusting, we moved it outside to the big island where we built a mountain range around it, burying most of the iron structure.

To the lower station, we added a Victorian ticket booth I modeled after the upper station at the Saltburn Cliff Lift Funicular. A wooden suspension bridge connects the upper station to the treehouse complex about 5 feet away. The entire project took about twelve months to finish. I never realized how much work it would be, but it was all worth it.



The Victorian ticket booth is always busy.



Lower station and ticket booth.



Upper station building with boarding platform, observation deck and Gear Room



Funicular railroad tubular and angle iron structure set into footings before mountain building.



The Cholla Patch Funicular Railroad climbs a mountain to the upper station (containing controls) where a suspension bridge takes passengers to the treehouse.



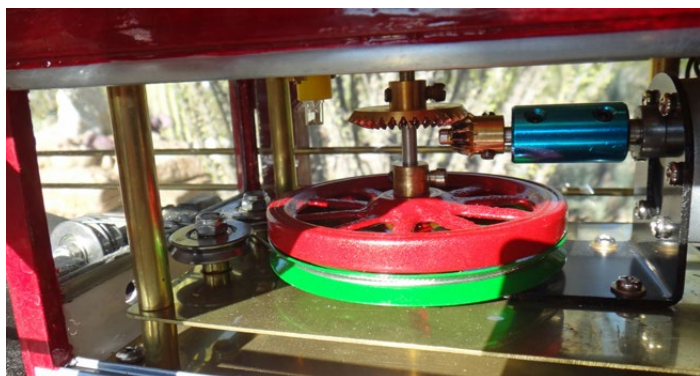
Suspension bridges take visitors to the treehouse complex, which features a brass elevator to reach the upper levels.

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Funicular's Features: My funicular is a two rail version and features the innovative ABT passing switch. It was partially inspired by a video of a demonstration model of a G-scale funicular based on the Horseshoe Curve funicular in Pittsburgh made eight years ago by a man and his grandson in Barcelona, Spain. Their demonstration model was a little "rough around the edges" and not weather-resistant, so it never was installed outside. But it proved to me that a two rail G-Scale funicular was possible. I copied their use of an old 3" Meccano 19b 'V' groove pulley for the cable drive wheel. I could not find a better 3" 'V' groove pulley anywhere. G-scale funiculars are rare because most people don't know what funiculars are, and they are hard to build. The models that do exist are the simpler four rail type. Apparently, my two-rail ABT funicular is the first one in the world that's installed as a garden railway.



Two 7/8" stainless steel pulleys redirect their cables horizontally into a hole in the Gear Room's glass wall.



The Gear Room with cable, pulleys, drive wheel gears, and motor.



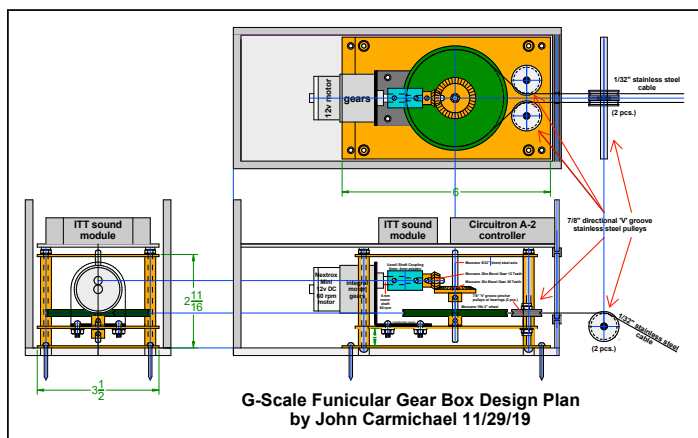
Conveniently labeled control panel behind Gear Room.

The funicular has automated station stops with programmable timed delay and auto-reverse. Speed is adjustable with a throttle, but I usually keep it at a prototypical speed of three inches per second. It has an automatic warning bell just like the real ones, and extensive car and structural lighting. Controls are conveniently located on the outside covered rear of the Gear Room built into the upper station. Everything is weather-resistant for outdoor use.

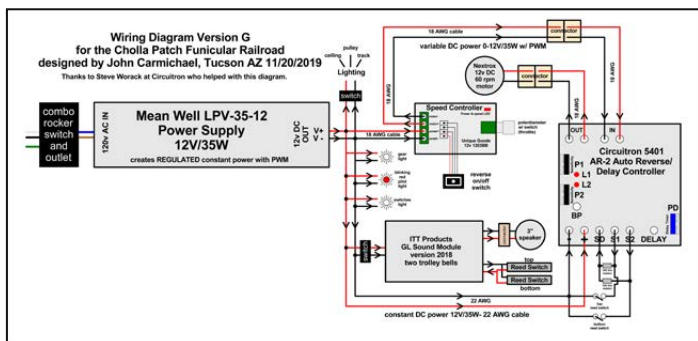
I created the track and passing switch by cutting and bending LGB brass flex track, and securing the rails to the ties with rail spikes. The ties and road bed are made from redwood, reinforced underneath with 1/4" angle iron. Although not needed for normal stopping, there are wood and brass bumpers at both ends which are only needed in an emergency such as a disconnected cable.



Passengers' view of track looking up.



An early diagram of brass gear box and Gear Room design.



John Carmichael's funicular wiring diagram.

continued on next page

For emergencies, I put two compression springs on the lower bumper to protect a car if it falls down. The rails have brass wheel stops in the upper station dock to prevent accidental upward movement in case the controller doesn't stop the motor when it should. Thank goodness, neither of these scenarios has ever occurred during normal operation.

The cable is $\frac{1}{32}$ " marine grade highly flexible stainless steel cable. The directional pulleys are stainless steel with ball bearings. And the gears are solid brass and beveled. Meccano makes the best solid brass gears I could find. I used a small Nextrox 60 rpm high torque 12 volt motor with an internal gear box, which simplified the brass gear box design so that I only needed two additional gears to reduce the rpm down to the desired speed. For many reasons, I used as few gears as possible.

The ABT Passing Switch is the most fascinating part of the design. One hypnotized visitor stared at it for fifteen minutes and couldn't figure out how the switch worked because he didn't notice the unusual car wheels, and just assumed they were normal single-flanged wheels. It seemed impossible! How can a flanged wheel pass over the switch point if the switch point is gapless? The solution: one side of the cars has double-flanged wheels and the other side has flangeless wheels. The outside double-flanged wheels guide the cars through the switch by using the outside guide rails which are the only continuous rails on the track. Ingenious!

Wheels and Flanges: I used Bachmann all steel wheel sets which were the biggest and heaviest ones I could find. This lowers the center of gravity. Heavy cars are a good thing. Don't use plastic wheels! Modifying the wheels was fast and easy.

To create a flangeless wheel, I simply ground the flange off of one wheel of each set by putting the axle in an electric drill and grinding the flange against a disk sander. To create a double flanged wheel, I just epoxied a $1\frac{1}{2}$ " steel fender washer with a $\frac{1}{4}$ " hole to the outside of the wheel.

Cable and Cable Gaps: The cable has a tiny loop at each end which attaches to a small hook underneath each car. Each car weighs 750 grams making the cable so tense and straight that I could eliminate the many cable support pulleys or rollers seen on real funiculars. Heavy cars are necessary because cable tension increases the friction between the cable and the drive wheel which prevents the cable from slipping. Slipping causes jerky movement or stalling. Getting the cable and hooks to pass smoothly through the rail gaps requires precision down to $\frac{1}{32}$ ". The cable must be as thin as possible and the cable crimp must be as tiny as possible. The cable I purchased came with the crimps for making a loop. I hammered tiny rail spikes tightly in place to secure the rails. Even a misplaced rail spike can cause the hook or cable crimp to hang up in the rail gap!

Carpenters' string was great for some of the initial testing, but contrary to what is often seen in pictures of model funiculars, don't use it on your final model. Avoid string or rope that will stretch over time which will cause the cars to stop and pass incorrectly. The cable *must* be stainless steel, just like the real ones!

Cable Hooks: I used $\frac{1}{16}$ " strong thin steel rod to make cable hooks for cars. Don't use brass rods which will bend under load, and don't use thicker rods because they might hang up in the ABT switch cable gap. The hooks should be as small as possible and be slightly below the top of the rails so they pass through the gaps in the switch. If set

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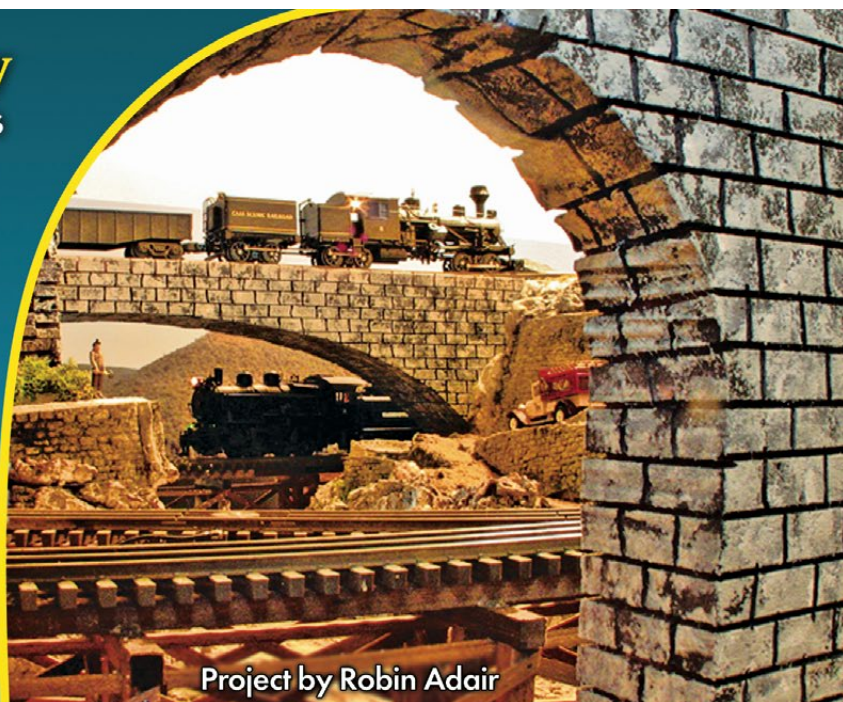


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Project by Robin Adair

too low, the hook will hit the rails or spikes. If set too high, the cable won't pass through the rail gap. The correct hook height requires precision and must be determined by testing! Test the hook before you glue it to the attachment bracket!

Pulleys and Cable Guards: At the top of the track there are two $\frac{7}{8}$ " "V" groove stainless steel ball bearing directional pulleys close together that redirect the cables horizontally into the two "pincher pulleys" inside the gear box. Just below them there is a small upside down "U" shaped cable guard nailed into a tie. The cables pass between the two pins of the guard which maintains the two cables in exact alignment with the nearby pulleys as the cars move up the upper straight section of track. Since the pulleys are near the center of the track and the cable hooks on the cars are off-center, the hooks move the cable towards the outside rails as the cars ascend. Without the cable guard, the cables would not align with the pulleys and might cause them to jump off the pulleys. The two "pincher pulleys" are inside the gear box close together and near the drive wheel. They pinch the cable together before it touches the drive wheel providing extra friction to prevent cable slippage.

Adding and Removing Cars: Before connecting the cables to the cars, I make sure that the ends of the cable are close to each other near the middle of the track because it's difficult to connect the cables if the cars are in the stations. After connecting one car, I make sure to hold it firmly until I connect the other car. If I accidentally let go of the cable, the car will speed down the track and might get damaged. Likewise, before I remove the cars, I stop them near each other in the center of the passing switch.



Corner view of cars stopped in the middle of the passing switch.

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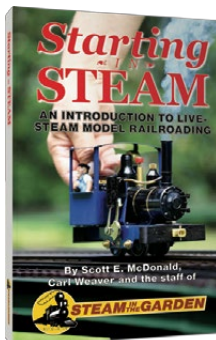
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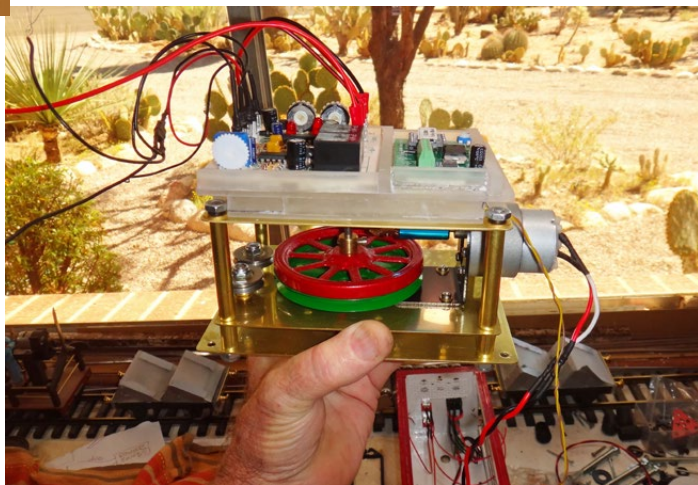
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Circuitron controller and ITT sound module on top of the brass Gear Room fit under the upper station roof.

Controller and Sound Module: The funicular controller and sound module had to be fully automated because they must be able to run unattended for long periods such as an Open House. Like most trolley systems, it required a programmable time delay after stopping and auto reverse. Circuit boards had to be compact to fit into the Gear Room and able to be activated by magnetic reed or contact switches. (I used reed switches because they are small and easy to install and tiny adjustments are easy.) Several different controller brands seemed like they might work, but I chose the Circuitron AR-2. With valuable connection advice from the manufacturer, it works perfectly and fits in the small space in the Gear Room above the gear box. The small ITT sound module plays warning bells when the cars leave the docking stations, and is programmed at the

factory to sound two trolley bell rings when activated by reed switches. It fits nicely next to the Circuitron.

Control Magnets: Only one car (Car #2) has a small magnet underneath which activates both the controller and the sound module by tripping two reed switches located between the rails at each station. I call this the control car. Each device uses one reed switch at the top car dock and one at the bottom. I used a 10mm neodymium magnet located $\frac{1}{8}$ " above the top of the rails. A small magnet is more precise because it will let you stop the cars at exactly the right spot. The large magnetic field of a large magnet is less precise. Don't put magnets on both cars!

The MM-D-10 style magnet by K & J Magnetics is the mounting type encased in nickel plated steel with a female threaded hole. I screwed a short piece of threaded rod into the hole under the flat car that was meant to attach a coupler, then screwed the small threaded flat magnet onto the other end. The threaded rod allowed me to easily fine tune the height of the magnet. This is the perfect magnet for activating the reed switches which lay flat in the middle of the ties and parallel to the rails!

For a clean look and to facilitate installation, I put two reed switches (one for the controller and one for the sound module) into a short piece of brass tubing which I glued to the ties in the docks at both ends of the track. By moving the reed switch tube along the ties up or down, before the glue dried, I was able to precisely adjust the cars' stopping point so that the cars' split-level floors line up exactly with the split-level station platforms. This was a very important construction step that can only be done by trial and error. Alternatively, if you prefer, contact switches of a different sort could be used.

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Car Lighting: *Don't electrify the rails for car lighting!* You'll have an electrical short between the inner rails in the ABT passing switch point if you do. There would also be a short in a three rail funicular at the switch point unless the center rail is of common polarity. However, you can use electrified rails in a four rail funicular. If you want car lighting, you must use onboard batteries. I used common 9 volt ones that have steel casings so I saved space by attaching one to a thin magnetic disc glued underneath each car's flat bed. My cars have cabin lighting and LED headlights.



Side view of cars passing jagged mountain spires.

Build Your Own Funicular: I'm making the HD full design drawings, electrical diagrams and construction photos available online to everybody hoping that more G-scale funiculars will be built. Email me at: jlarmichael@comcast.net to request a full-size PDF file of the track plan, and I'll send you a copy. My design can be lengthened by adding straight track at both ends. You can have longer cars and even trains of coupled cars, but these require inserting sections of straight track in the middle of both curves of the passing switch because they need more room to pass.

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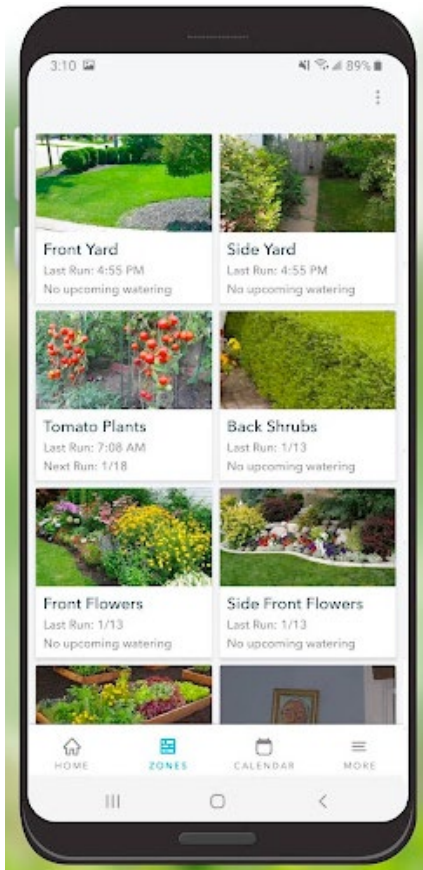
WATER WISE SPRINKLER CONTROLLER

By Mick "Baron" Spilsbury

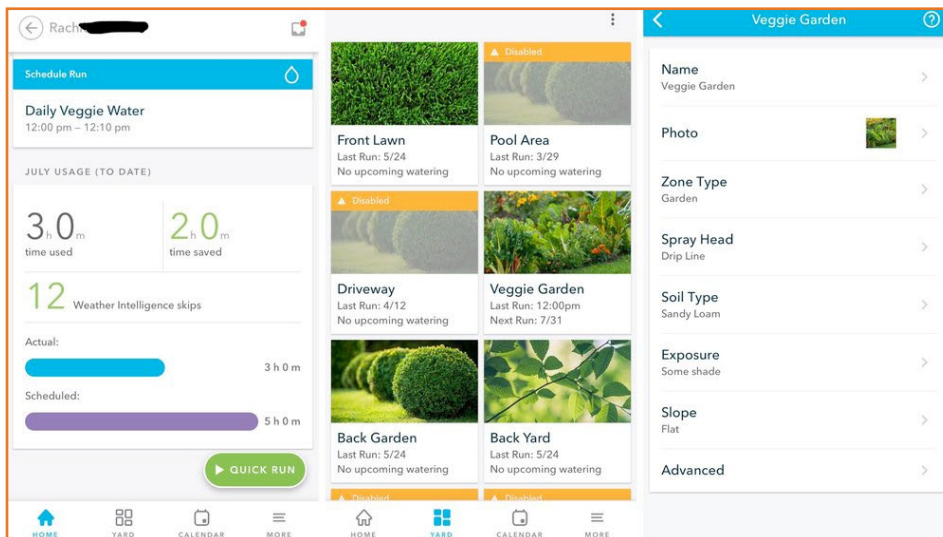
For the past two years, like many others, we at Spilsbury Manor have been taking military showers, limiting flushing, and redistributing pre-shower water and grey water to our yard. Now we have upgraded our irrigation controller. The upgrade was prompted by the failure of an old Rainbird controller, and we are glad it failed because we have gone hi-tech. Our new Rachio 3 controller has many capabilities that will help our quest for the most efficient use of irrigation water.

The Rachio 3 comes with 4, 8 or 16 station controls. All versions feature internet-enabled, remote control of everything— including setting and adjusting schedules, skipping days, and adding an extra one-off watering. We could be in London, see that it's going to be very hot in San Rafael later that day and instruct stations to do an extra watering.

No more standing at the controller box. Everything is done on the Rachio App on our phones.



- You name stations (Zones) and can add a photo (taken on your phone) to help aging memories and a partner's understanding of how you set up stations.
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- Discretionary rain/wind/saturation holds can be set for each station.
- You can also get Rachio to automatically adjust watering rates by season.
- The app records every station run so you can see exactly how much water you are using.
- It will also report a problem with a station.



continued on next page

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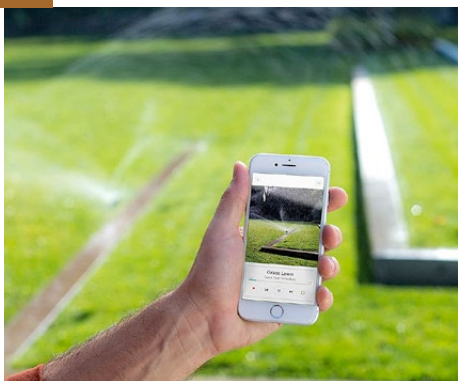
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We love that we can walk around our yard, turn a station on with our phones, then inspect the drippers connected to the station, while also looking for leaks in pipes. Going back and forth to the old controller in the garage to turn stations and off multiple times to do inspections was so time consuming that inspections happened infrequently and only when distressed plants indicated a problem. Convenient inspections will reduce plant mortality and expense, as well as water use and expense, as leaks will be discovered earlier.

Set up was straightforward. Wiring must be switched over with care but most of us have significant wiring experience. The App is a lot easier to manage than AirWire Controllers! Instructions were brief, clear and they worked!

After you have finished the wiring, a handsome white plastic cover is attached magnetically. I used a junction box to reduce the size of wires going into the controller. An auto-adjusting, hexagonal crimper and a box of crimp ends of varying size made the job (and future projects) a lot easier.

The Rachio 3 has plenty of competition and is more expensive than most, but, given our investment in plants, especially the 200+ miniature plants around the railroad that need consistent watering, the \$240 price tag did not phase us. (We figure it will pay for itself many times over with a reduction in plant losses.) Rachio 3 gets better reviews than most internet-enabled controllers and our first impressions are very positive. In these times of water limitations, we are delighted to have an irrigation controller that gives us effective control and monitoring of our watering.

PS - I don't own stock in Rachio!



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-- By Richard Murray

BOTANICAL NAME: *Pinus Parviflora*,
'Adcock's Dwarf'
COMMON NAME: Japanese white pine
USDA HARDINESS Zone: 5 (down to -20° F)

White pine is native to Japan and Korea. It is an evergreen conifer that may reach 90' in the wild, but is usually much shorter in cultivation. Oval, reddish brown cones (2-3" long) can be solitary or appear in clusters, remaining on the branch for up to seven years. Grayish black bark is smooth on young trees but develops fissures and scales as the tree matures. Needles appear in bundles of five.

The variety 'Adcock's Dwarf' is small. It might reach 3' tall and wide after 25 years. The specimen in the photo is about 14 years old and has had little pruning. It is usually very dense, although the specimen pictured above is not. Needles are short, and are glaucous, meaning bluish green or grey green, with the underside being white. Early in life 'Adcock's Dwarf' grows as a bun-shaped plant and only later becomes more pyramidal.

The plant should be grown in well drained soils. It needs only a moderate amount of water. It likes full sun and cool summer climates. It does not like the heat and humidity of the deep South. It is tolerant of many soil types, even poor soil.

'Adcock's Dwarf' was discovered as a witch's broom in the 1960s at a nursery in England, and was named



after its propagator, Graham Adcock. Witch's broom is a mass of short branching on a conifer that results from a single bud that has had a spontaneous mutation. The origin of the phrase witch's broom is a German phrase which means "the broom of a witch." It is so named because the dense mass of shoots growing from a single point resemble a witch's broom. The origin of witch's brooms are not well understood but may result from chemical exposure, radiation, viruses, insects, or climatic conditions. Occasionally, a witch's broom will produce seed or pollen cones that carry a unique DNA. If one propagates seedlings derived from witch's broom cones, worthwhile plants may result. "Broom hunting" is a popular past time among nurserymen and is the source of many desirable plants.

As is true of all Japanese pines, 'Adcock's Dwarf' adapts well to pruning and shaping. Its small size and small needles make it a good candidate for bonsai, rock gardens, and garden railroads.



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Laying Track at Bushnell Station on the FGRS Garden Layout

By Don Carter



After the frame was built the soil was brought in and tamped. Then weed mat was placed over the complete layout. We then marked out the path the track would take and radius of the curves with orange marking paint.

Next we laid the base and front wall for the tunnel. We used concrete stepping stones from local DIY stores. The track was placed for the length of the tunnel before the back wall and top were bonded in place with high strength mortar. There are two inspection holes along the back side for access to trains in case of derailed cars. You can see the daylight shining into the backside.



The next process was cutting 1"x4"x8" pressure treated board grade stakes and positioning them in the path the track will be placed. The weed mat was slit to prevent stretching, and the stakes are driven to the depth we want the rail height to be above the mat. This is used to make sure the track is level, straight, and at the grade height we want. Because this is a double track system, care is taken to make sure the spacing between the tracks is maintained. The track is then mounted to the grade stakes using #8 x 3/4" screws.



continued on next page

While the track is being laid the ballast is being prepared for its placement. #89 granite stone was bought from a local rock yard. This stone is a little larger than preferred so it is sifted to remove the larger parts which resulted in having smaller stones for the top ballast dressing. The stone is washed with a water hose or laid out on the vacant area of the layout where we let the rain wash it.



The ballast was then laid, and after washing it again it is sprayed with a bonding agent. We used a concrete glue full strength in a hand pump sprayer. The spray is placed on the edges of the track and ballast wall. We did not place the bonding agent between the rails at this time to allow the ballast to settle over time. It may be necessary to add ballast in the future. Below the track is almost completely laid and we have started placing ballast.



continued on next page

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This is how the track continuity is kept secure. I use a #18 gauge solid wire soldered to the end of each rail and after track is joined the ends of the wires are soldered together.



We finished putting in the pond pump and stream from in front of the tunnel. You can see the plywood square board on the outside wall where the train will enter the building. There will be a track siding inside under a display shelf. The track from outside will enter and exit the museum. The tent is temporary for shade while working. It's getting hot out there now-days!

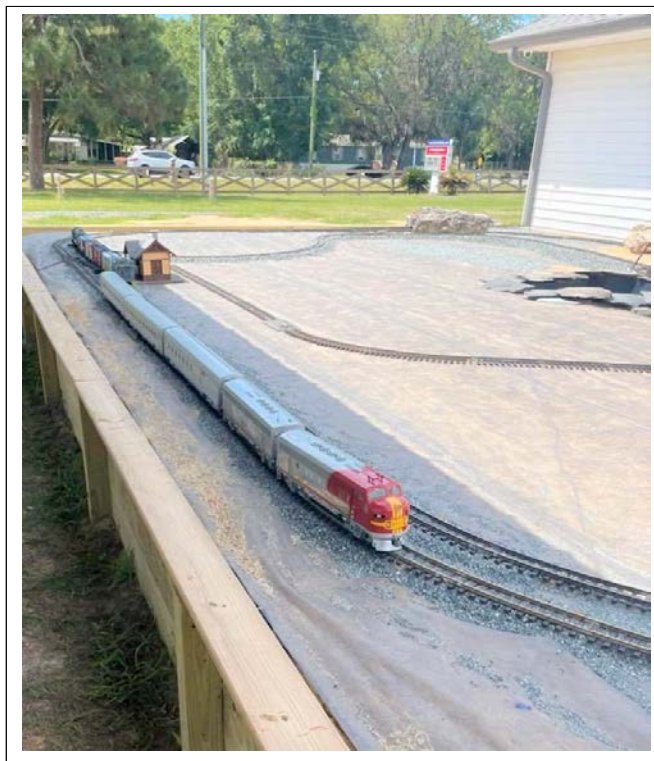




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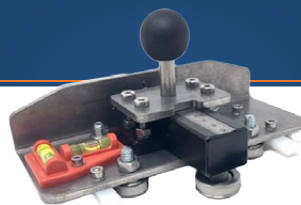
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Aquarium Car for Freshwater Fish

By John Walther,
Paramus, New Jersey

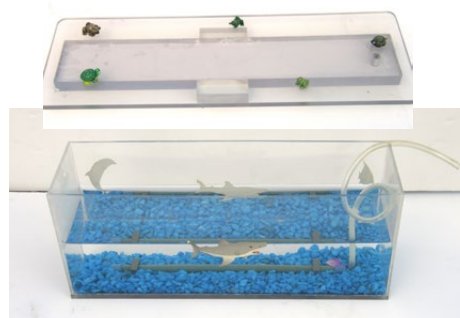
I scratch build all my structures and create a few interesting railroad items. I thought the Aquarium Car is one such item that would interest your readers. The Aquarium Car holds water, allowing your pond fish or other fish to swim around the car while it is moving. The aquarium tank is equipped with an aerator which provides bubbles for the necessary oxygen from track power or battery power. The battery provides power even when the car is not moving.

Flat Car: Stability & Tank Support

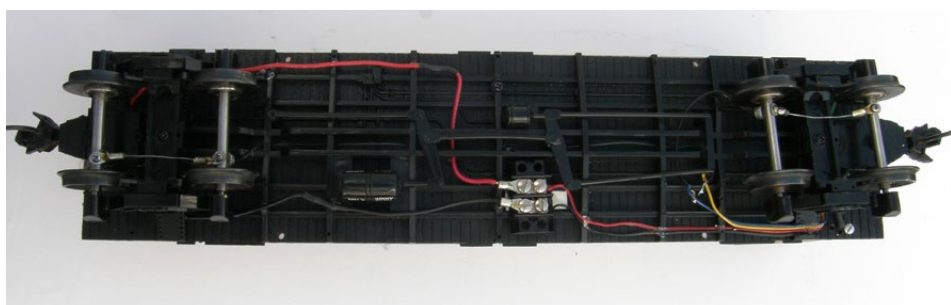
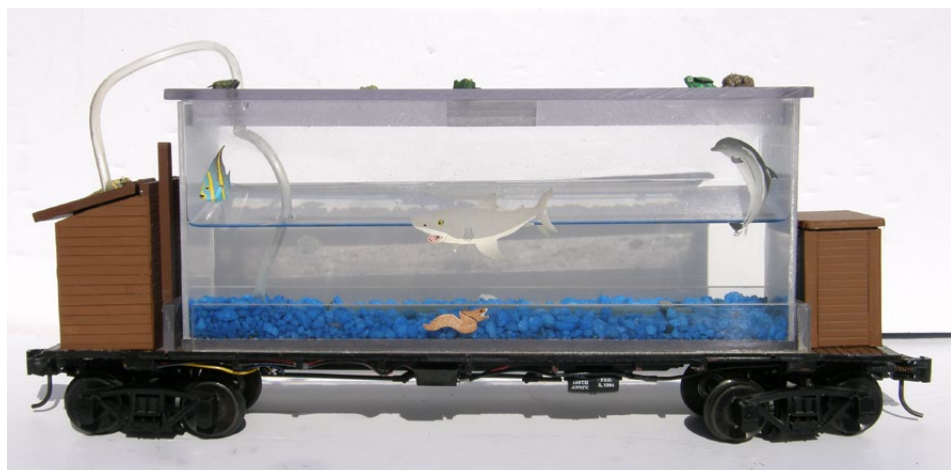
A standard flat car was used. The trucks should be equipped with metal wheels and needle point axles. After water is added, the car becomes quite heavy and needs heavy-duty, smooth-rolling trucks for easier movement and stability.



Metal-wheel flat car with battery & electronics boxes at ends. Aquarium tank fits into clear plastic frame.



Clear plastic tank and cover; inset plug on cover fits into tank to keep it from sliding off on curves.



Wiring and insulated trucks

Aquarium Tank Construction

Acrylic or a good grade of Plexiglas plastic should be used for the construction of the tank. The size of the tank, cover and support frame is shown in Figure 1. Acrylic solvent cement should be used which sets up extremely fast, so make sure your edges are flat and even to make a water tight fit. Plastruct Plastic Weld may also be used. To apply the cement use a small brush, eye dropper or hypodermic syringe. This is especially im-

portant to get the cement to the inside corners of the aquarium tank.

There is a special cutting tool designated for cutting acrylic. For thicker pieces (3/16th inch), a circular saw may be used with 18 teeth per inch. For the inside cover piece which is 1/2 inch plastic, use a blade with 10 teeth per inch. Do not use ordinary wood blades or combination blades. A Sabre Saw may also be used with metal cutting blades that have 24 teeth per inch. Guides for all cutting of acrylic is highly recommended .



Aerator in operation; Note tubing requires a drilled hole in the cover.

continued on next page



FIG. 1

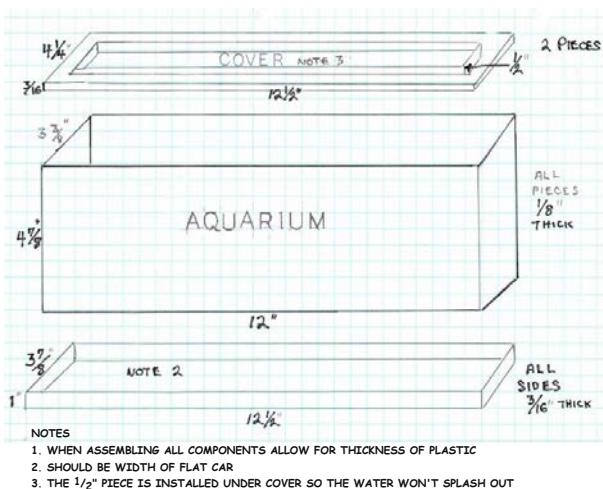
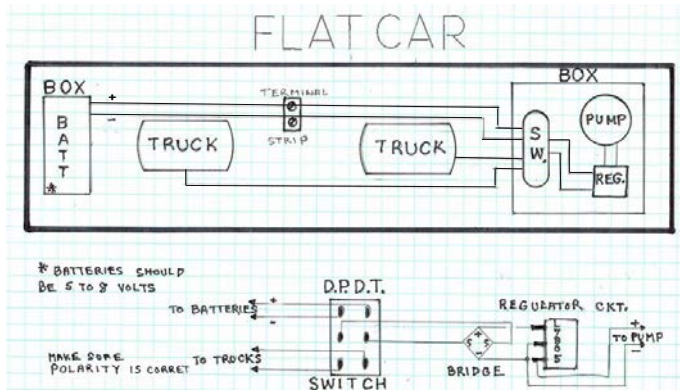


FIG. 2

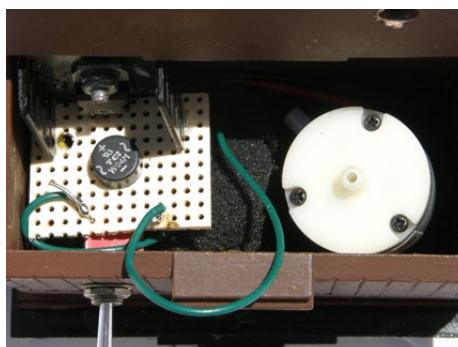


Electrical Wiring

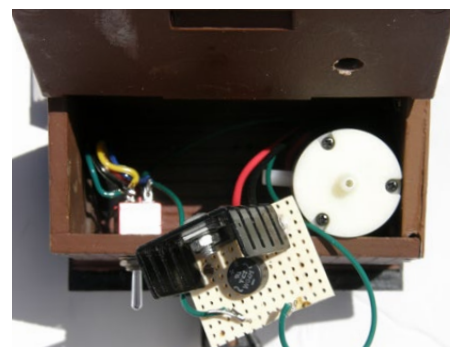
The first diagram in Figure 2 represents the layout of the components and how you may want to run the wiring. A terminal strip should be added on the bottom of the flat car. This will enable you to disconnect the two leads to the batteries which will allow the charging of the batteries.

I suggest that you use red and black leads to the batteries and any other two colors to the trucks under the flat car. Make sure that the insulated trucks are opposite from each other for proper electrical rail pick up.

The second diagram is a schematic layout of the wiring and the connection to the electrical components. All of these components are inside the box including the air pump. The photograph will show this to some degree. Any regulator chip which provides 5 volts may be used. A very small toggle switch is recommended as there is very little space inside the box.



Box containing electrical components and pump with hinged cover. Note that a soft black sponge is added below electrical circuit board to prevent movement of pump. Different color wiring is used to wire components.



Batteries

I used 7 AA batteries which, when wired in series, provides at least 8.4 volts. Try to obtain Ni-Mh, which have at least 2800 mAh discharge. The selection of batteries is quite extensive on Amazon. The number of batteries required is dependent upon the voltage rating of the pump that you use in the car.



The Aquarium Car was designed and built by Emil Tancredi and John Walther. Email any construction questions to editor@GRNews.org. We'll forward them to John and possibly publish them in Letters to the Editor with John's reply.

[Editor's Note: Move your fish to the Aquarium Car only while a train trip is in progress. They will appreciate a quick return to their usual home—and would appreciate some of their home pond/tank water in the Aquarium Car when traveling.]

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Korean Grass on Don's Layout



PLANT OF THE MONTH Ground Cover

By Don Herzog

Common Name: Korean Grass
 Botanical Name: *Zoysia japonica*
 Category: Ground Cover
 Korean grass

Korean grass is a warm-season, sod-forming perennial grass generally used for lawns. It has a low-growing, dense, dark green appearance, as well as low water and mowing requirements.

It produces maximum growth when temperatures are between about 80 and 90 degrees. Regardless of planting location, Korean grass experiences a wintertime dormancy and may turn a light to dark brown each fall. It grows best in full sunlight, though it may also succeed in areas of light shade. Thinning out branches that overhang the grass encourages healthy growth.

I planted mine 6 inches apart last summer and the area is now covered. It is not flat growing, but produces undulating mounds 1½ inches high. It can be grown in Zone 6. It does not do well if water sits over it in a depression, particularly in the winter.

I use Korean grass as a pasture for sheep and other livestock as well as a groundcover. Korean grass should be available at most nurseries in flats or as plugs.

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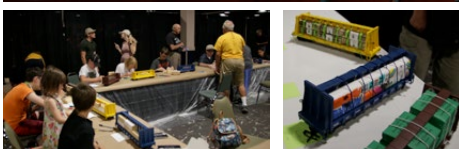
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On Continuing the Tradition of National Garden Railway Conventions

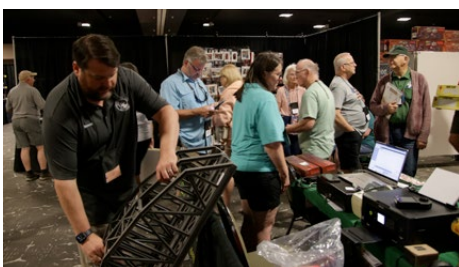
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Railroad-related Local Venues

More NGRC snapshots on next page

Garden Railroading News hosted an interactive 'clinic' at the 2022 Denver National Garden Railway Convention. About sixty participants were guided through a series of questions looking for ways to continue National Conventions with less organizational stress on sponsoring clubs. Major points of consensus are shared below.

Major Points of Consensus

- Although every one recognizes that hosting a National Garden Railway Convention is a major workload and financial commitment, National Conventions should not be downsized.
- A variety of activities attracts registrants which, in turn, attracts vendors.
- There was no consensus to drop any National Convention features. (For example: No ice cream social? No way!)
- 'Regional Conventions' would not have the pull of a 'National Convention.' They have a place in the GR calendar but not replacing National Conventions, and preferably not on dates conflicting with a National Convention.
- To spread workload and financial commitments, it might be possible for two or three clubs to co-host a National Convention but only where the clubs are within easy travelling distance.
- Could a National Convention start in one city, and then move to another city, as many clubs do not have enough layouts for a national convention without including layouts from other clubs nearby? The group felt this was fine if layouts were not too far apart and attendees would not have to change hotels.
- The idea of teaming up with other railroad organizations to host a GR/Large Scale National Convention was thought to pose too many challenges, given the varying focus of organizations.
- Public days should be a feature of National Conventions to create more business for vendors.

In general, there was little enthusiasm for moving away from the current National Convention format no matter how much we pushed on other options.

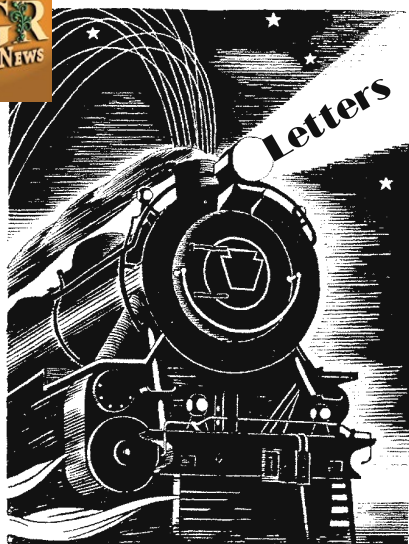
Where Does That Leave Us?

- Bay Area Garden Railway Society will host the 2023 National Convention.
- Sacramento Garden Railway Society will host the 2025 National Convention.
- There might be a 2024 convention in New York and/or New Jersey. We at *Garden Railroading News* are waiting to hear more complete plans from organizers, but time is short to pull it together.
- If no East Coast National Convention comes to fruition, perhaps Regional Conventions will fill the void in 2024.

Garden Railroading News believes that National Conventions are important for our hobby and that having them each year is great for the hobby, but recognizes that there is no sure path to that outcome.

But What Do You Think? Do you think that annual conventions are worth trying to sustain? If so, what suggestions do you have to make that a reality given the workload and financial commitments involved?

Email your thoughts to Bill Derville at: advertising@GRNews.org



STRAIGHT FROM THE IRON HORSE'S MOUTH

Letters to the Editor should be sent as e-mails only to Carla Brand Breitner at:
Editor@GRNews.org

Letters will then be addressed accordingly and/or passed on to the author for further edification. Unless marked otherwise, letters to this publication are assumed to be submitted for print. Please include your name and club affiliation. Please note that we may not be able to print all letters, though we will try to respond to them. Letters may be edited for length and clarity. We are unable to answer requests for information about specific products or systems; these are best addressed to the appropriate manufacturer.

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Mick,
 I see no way on your website to subscribe to *GR News*. How can I do that?

Tim Battle

Hi Tim,

Thank you for reaching out. We don't maintain a subscription list for the digital magazine. We are a small volunteer organization and don't have the capacity to maintain a database of up to 5000+ people.

However, for folk who would prefer to receive the magazine in paper form, we will be introducing that as an option. We are working to make printed issues available at a cost of approximately eight dollars plus shipping through a book printing website. We hope to announce that option later this year.

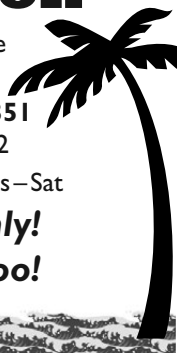
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Whimsy in GR News

Hi.

Another great issue. Already had positive comments from a couple of members on the articles about the Hosta La Vista Railroad. We have a few in our group that primarily model the whimsical side. They do some amazing work.

Kind regards, Murray Trim
 Locos Lads & Lasses
 New Zealand

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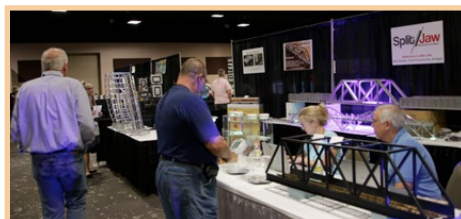
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Denver 2022 Vendor Hall Snapshots





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- Northwest Arkansas Garden Railway Society
- AR/OK/MO*... Ozark Garden Railroad Society
- AZ Arizona Big Trains Operators
- Central Arizona Model RR Club
- Gadsden Pacific Div. Toy Train Operating Museum
- Oracle Community Learning Garden Kid's Railroad
- Sun City West Model Railroad Club
- Tucson Garden Railway Society
- VDO Garden Railroad Club
- CA 1:32 Scale Group
- Bay Area Garden Railway Society
- Central California Coast Garden Railroad Society
- Del Oro Pacific Large Scale Modular Railroaders
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- Gold Coast Garden Railway Society
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- WA/ID* Inland Northwest Garden Railroad Society
- WA Puget Sound Garden Railway Society
- Emerald Heights Garden Railroad
- WI Kenosha Garden Railroad Society
- Wisconsin Garden Railway Society

NATIONAL US

Big Train Operator Club LGB of America

- | | |
|--|---|
| CANADA | AB Northern Alberta Garden Railroaders |
| | AB Rocky Mountain Garden Railroaders |
| | BC Black Mountain Railway Club |
| | BC BC Society of Model Engineers |
| | BC Fraser Valley G-Scale Friends |
| | BC Greater Vancouver GRC |
| | BC Vancouver Island Garden Railway Club |
| | ON Burlington Model Railway |
| | ON Central Ontario GR Association |
| | ON Golden Horseshoe Live Steamers |
| ON London Garden Railway Society | |
| ON Ontario's West Garden Rail Society | |
| ON Ottawa Valley Garden Railroad Society | |

- | | |
|---|--|
| COUNTRIES BEYOND NORTH AMERICA | AUS Garden Railway Club of Australia Inc. |
| | Australian Model Railroad Assoc QLD |
| | Australian Model Railroad Assoc VIC |
| | NZ Auckland Garden Railway Group |
| | Christchurch Garden Railway Group |
| | Locos, Lads & Lasses |
| | Waikato Garden Railway Group |
| | Wairarapa Garden Railway Group |
| | Wellington Garden Railway Group |
| | SWE NTJ, Nässets Trädgårds Järväg (Varmland) |
| Sveriges Tradgardsjarngar (Stockholm) | |
| CH US G-Scale Friends Switzerland | |
| UK G Scale Society United Kingdom | |
| Kent Group: G Scale Society | |

* Club/Society includes members from multiple states and is listed under each state.



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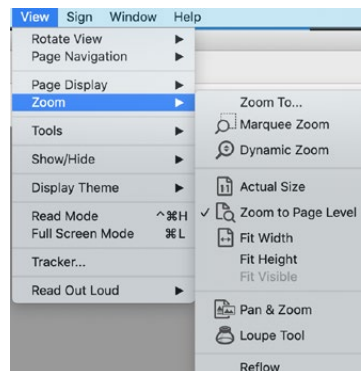
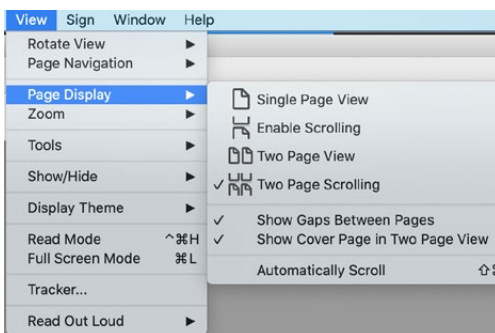
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