ROSE CITY GARDEN RAILWAY SOCIETY

NEWSLETTER

See our Web page at http://www.rcgrs.com/

March 2006

An unusual assignment for a 2–8–8–2 Mallet as it pulls a passenger train across the RCGRS trestle at the GWAATS

Notes from President Darrel Dunham

Well, here we go with another year. There are changes in the front office with new officers elected at the start of the year. Jeff Lange, VP, Barbara Clark, Sec. Steve Cogswell, Treas. Gary Lee, Yard Master and myself Darrel Dunham, Pres. I would like to welcome all the new officers and I am looking forward to working with them. Check the back page for email address for these officers.

We have started a Module Special Interest Group (SIG) and Dave Kooken was elected Chair by the group at the first meeting. A special thanks to everyone who is a part of the SIG for providing the modules for the GWAAT Show at the Expo Center.

I would like to create maybe a couple of more SIGs. One would be an Operations SIG. This group would get together on a scheduled bases, learn and operate trains as they did in the past and current real life. As a start, a couple of members are looking into going to a class back east to learn from the experts. Another could maybe be Live Steam SIG if there is enough interest.

The club is in need of some Open Houses for our Monthly Club Functions. Please contact Don & Barb Golgert, 360–896–1778, grammabob@wa–net.com

Help Needed:

Chairman for the Annual Banquet in November. There are several people who have said they would help.

Membership Chairman. Responsibilities could include keeping the Club Roster updated, creating the new member books, creating mailing labels when needed, make membership survey, and create a data base of member's interest and expertise.

Club Store Proprietor. This position would be the person that would keep the store items and an up to date inventory list. We have shirts, patches and ballast that are for sale to the members.

Entrance to a great presentation by the RCGRS

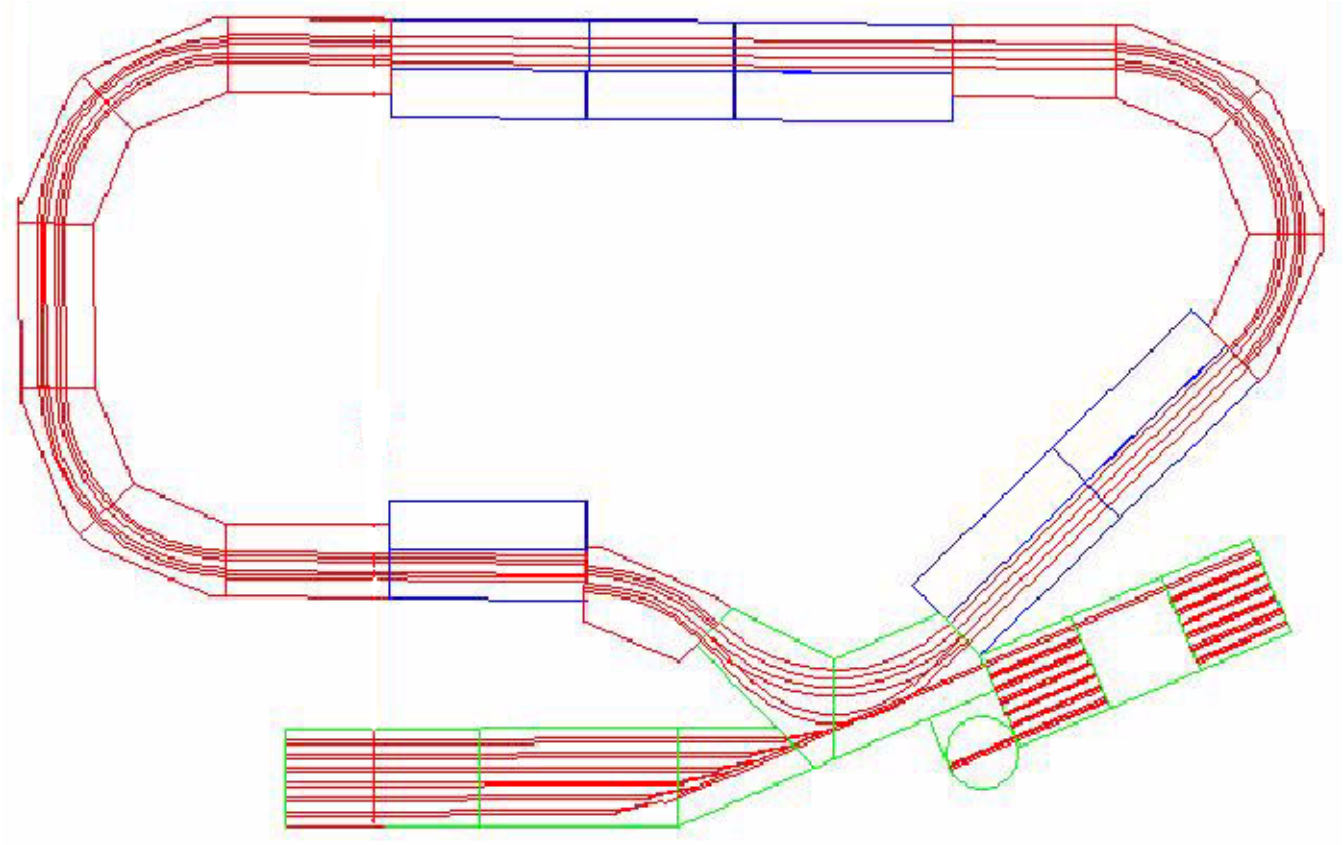
The Great Western And Atlantic Train Show

A large presentation layout was built by RCGRS for the train show on February 18–19 at the Exposition Center. This event was the first time that the SIG modules were used and showed a great effort by our members in constructing the modules in time for the show.

Many of the minature plants on the layout were through the efforts of Rex Ploederer. Several members brought some of their buildings to fill out the landscaping.

Several of the modules have nice landscaping

A large layout befitting the RCGRS volunteers



GWAATS Track Layout and Modules Design

Construction continues on an abandoned sawmill site. The sawdust burner is all that remains.

Barbara Clark and Gary Lee set out landscaping plants

Gordon Pisle talks to some of the attendees

RCGRS SIG

By Dave Kooken

If you take a moment to review the January annual minutes, you will find that the RCGRS Modular SIG accomplished far more than was envisioned by the club. By working four Saturdays, a Thursday evening and a Sunday, twelve modules were completed before the Gats show.

When the trailer was finally loaded at Gary Lee's Constructavision to head for the Expo Center, there was no room left in the trailer for any more

equipment. So if the club approves any more construction, additional storage and transportation will be issues.

Some SIG members were only able to work once. Others were there every time. Still others made important contributions by working on their own. For example, Carolyn Rose was a committee of one, as she sewed all the yards of green fabric that we hoped to use as drapery on the outside of the modules.

The challenges were many, but problems were always solved by the suggestions and adaptbility of the group members. Don Watson's double rail bender saved us hours of work.

Jerry Clark, Jeff Lange, Len Merritt, and Don Gogert assemble a SIG module

Don Watson adds track to his SIG module

David Linn and Jeff Lange add track and wiring to the modules

Working within the SIG, a sub–committee of Barbara Clark, Carolyn Rose and Margaret Kooken planned to take dozens of real trees, primroses, and mosses to put the garden in the railroad.

At some future time, before the next show, additional work will be needed to refine the modules in light of the experience gained at GATS.

Early Diesels Before 1930

By Allan R. Warrior

Last month I wrote about Dr. Rudolf Diesel's contributions to the development of internal combustion engines. At less than 8% efficiency, steam engines had been recognized as poor converters of heat energy to mechanical energy.

Nicholas Carnot, a French physist, developed a mathematical model called the Carnot Cycle for an ideal heat engine at maximum thermal efficiency. This development promised a much better scheme on heat energy conversion of at least three times better that of the steam cycle. The Otto Cycle and the Diesel Cycle are based on Carnot's work. The promised economics of the Otto Cycle and the Diesel Cycle caused physists and engineers to develop various internal combustion and other energy converters. This research and development continues to this day.

Diesel engines are often as much as 40% more efficient than their gasoline counterparts. However, the downside of diesels is that because of their required slower operations and higher internal stresses, they are generally a larger heavier power

plant. For large displacement engines, diesels become much more economical in fuel usage while gasoline engines become prodigious fuel hogs.

As early as 1893, Dr. Diesel proposed the application of his engine for railroad locomotives. He produced an experimental diesel engine for railroad use in 1909, but for many years diesel engines seemed more suitable for submarines as I wrote in last month's newsletter.

The first DC traction motors were designed for street cars. Thus, the early non–steam locomotives tended to look like extended street cars and were called "box cabs." The motor man rode in the same "box" with the engine, generator and other components. It was hot, smelly and noisy and it must have taken some "iron men" to operate some of these early "beasts."

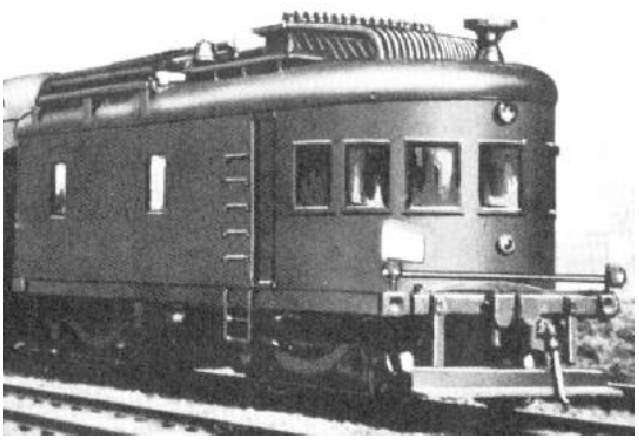
The railroads had a reason other than efficiency to support the development of diesel electric locomotives. The State of New York prohibited the operation of steam locomotives on Manhattan Island after June 30, 1908. This prohibition was the result of a 1902 accident that killed 15 people in the Park Avenue tunnels when the engineer could not see another train in front of him because of the smoke. The goal was to electrify the railroads operating within the city.

Chicago was also choking in the smoke from steam engines and passed an ordinance in 1912 that all trains not leaving the city limits must have electric locomotives. The cost of electification was high and the railroads thought the emerging diesel–electric locomotives might be in compliance with the intent of the legislation. The goal of eliminating all steam engines in New York City was finally accomplished in 1930 and for local trains in Chicago in 1935.

Diesel engines continued to be improved in Europe but were rather ignored in the United States. General Electric (GE) made an experimental gasoline–electric railcar in 1909 with forgettable results. GE then sent some of their engineers to Europe in 1911 to learn more about diesel–electric motive power. GE then built five experimental switch engines about 1915–1918, also with forgettable results. In 1918, GE decided they could build good electrical components for locomotives, but from then on would leave the construction of engines and the bodies of locomotives to other companies.

GE #4, 200 hp V–8, Built in 1918

In 1924, GE/Ingersoll–Rand built a 300Hp demonstrator for the New York Central RR. After rigorous testing the demonstrator, the NYC RR decided it could meet its needs and to phase out steam locomotives in New York City. The American Locomotive Company (ALCO) agreed to build the future car bodies and mechanical equipment if the demonstrator proved successful. Ingersoll–Rand would also assemble the locomotives, install the engine, and be responsible for selling the units. The partnership was called **AGEIR**. In this early period of diesel–electric development, the more common term for these locomotives was "oil–electrics."



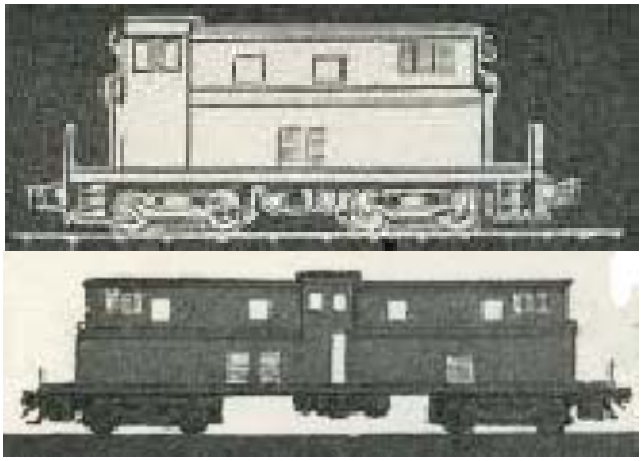
GE/Ingersoll–Rand Oil–Electric of 1924
300 Hp.

Two standard box cab units were offered by AGEIR: a 300 hp, 60 ton and a 600 hp, 100 ton. A total of 50 locomotives were built to standard designs and sold between 1925 and 1931. ALCO left

the partnership in 1928 to begin production of their own locomotives. ALCO will appear again in a later article. When the partnership dissolved, GE stopped being the leader in the development of diesel–electric locomotives, but would become the leader in selling electric transmissions and controls to other manufacturers.

Westinghouse decided that if GE was interested in the railroad market, they should be interested also. Prior to 1926, Westinghouse was producing straight electric locomotives with Baldwin Locomotive Works supplying the railroad components. The electric locomotives were rather small and lightweight and Westinghouse early–on saw the benefits of Multiple Units (MU) operation. They were not successful in controlling an MU lashup (not solved until 1940 by GE), but they did develop a pneumatic multiple unit control that would evolve into the very successful controller built by the Westinghouse Air Brake Company.

In 1926 Westinghouse formed their Railway Engineering Department. Westinghouse selected a Scottish engine company, Beardmore, to supply the engine for their locomotives. From 1928 to 1930, Westinghouse built a few box cab switchers. In 1930, a new form was designed. In a box cab switcher, the engineer sits at one end of the unit. He can see forward and to the sides, but the rearward view is obstructed by the body of the locomotive. Since switchers make many moves in the forward and reverse directions, the engineer would have to operate blind for half the moves or walk to the other end of the unit for each reverse move. Westinghouse introduced the Visibility Cab where the engineer sat in a central cab slightly raised above the unit body so that he could see in either direction. Only 29 units were built over a nine year period. Westinghouse ceased production of locomotives and went into partnerships with other locomotive builders and providing the electrical components.



Westinghouse Visibility Cabs of 1930

Other early manufacturers of small switch engines and industrial switchers were: Plymouth, Whitcomb, Davenport, Brookville, Porter, Midwest, Milwaukee, Baldwin (gasoline), Berkeley, and Vulcan. Next Month: Some of these early diesel attempts and other oddities.

Who Would of Thought?

INEXPENSIVE CORRUGATED METAL FOR ROOFING & SIDING

By Len Merritt

The question answered in this article is “How does one make inexpensive scale corrugated real metal roofing & siding?” The answer is using a Fiscars Paper Crimper and thin metal.

This question was asked in the December 2005 issue of **Garden Railways Magazine** (page 25). It is also addressed in detail on George Schreyer’s website found at http://www.girr.org/girr/tips/tips.html (Cheap and Dirty Corrugated Metal Siding). I’d like to fill in these two references with additional information not found in either.

The paper crimper (top left of photo 1) can be found at Michaels Craft Stores for around $20 or ordered from JoAnne Fabrics (Item No. 9340) for somewhat less. The best metal I’ve found is 36 gauge aluminum foil. A 12” x 30” tube of K & S aluminum foil from a hobby store is around $6 (middle

of photo 1) or a 12" x 36" tube of Maid-o'-Metal from a craft store is about half that (bottom of photo 1). This is great material if you want super clean metal to work with. The website referenced above goes into great detail about using aluminum soda or beer cans. Aluminum cans are thicker and harder to work with unless annealed (heated for a time to soften them). Annealing tends to give the metal a sort of rainbow color that I don't care for (top right of photo 1).

Cut your aluminum to the size you need before crimping it (scissors work great) to avoid crushing the folds while cutting. The width you choose depends upon the scale and effect you are trying to achieve (photo 2 shows an application on the roof of a 2 stall engine house).

The crimper will roll material up to 6 " wide and any length. Be sure to keep an even pressure on the crimper as you roll the aluminum foil through. You can touch up or redo pieces by carefully lining up the folds on the foil with the folds on the tool and crimping again. Flatten the metal sheet by lightly bending it back on itself. Apply to your building using your favorite adhesive such as liquid nails, silicon calk, or gorilla glue.

The following photos show the corrugated applied to the roofs of a depot and a gas station (photos 3 & 4). The corrugated roof on the depot is painted while the roof of the gas station is left in its original state. However, most prototypical metal buildings are far from this clean looking. The problem with using aluminum is that other than using paint to weather it, the metal does not rust.

Rex Ploederer was given an idea from a friend in Eugene to weather (rust) the corrugated aluminum foil. A company called "Modern Options" at www.modernoptions.com makes several kits for "rusting" most surfaces. The one I use is called Rust Antiquing Set and can be found in some craft stores. The product uses brush on liquids. The first is

an iron metallic solution. The second is a form of mild acid that actually "rusts" the previously applied and dried on iron metallic flakes. This is neat stuff that can be used to "rust" many surfaces like wood, plastic, and glass.

Don't forget to seal the surface with your favorite weather proof sealer. Photo 5 shows the product and a piece of the corrugated aluminum foil with the bottom section "rusted".

Thanks to Rex Ploederer and Jim Greer of Salem for their great ideas and assisting me with this article.

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Schedules & Timetables

Make sure you check the calendar on our Website at **http://www.rcgrs.com/** for the most up–to–date schedules and timetables.

Anyone interested in having an Open House or sponsoring an event, please contact **Donald Golgert at 360–896–1778 or grammabob@wa–net.com**. The goal for 2006 is to always have one open house or event on the second Saturday of the month. The other events or open houses can "float on any of the dates in the month.

March 26, 2006, Sunday, 1:00 p.m. to 6:00 p.m.: Open House at Bud Quinn and Christina Britain's Quinn Mountain. (Note that the day is Sunday) Pot Luck: B–D main dish, E–M side dish, N–Z dessert.

To get to Quinn Mountain, go east from I–5 or I–205 to Milepost 26.5 on Washington State Hwy. 14. Turn north up Canyon Creek Road (just east of Salmon Falls Road) for 7/10 mile. Our driveway is on the right where Friendly Bear is waiting to welcome you. Directions and a map are available at their Web site. **http://www.quinnmountain.com**

April 8, 2006, Saturday, 12:00 p.m.: Track laying party at Don & Barbara Golgert's house. Pizza will be served; salads, desserts welcome.

April 22, 2006, Saturday, 1:00 p.m.: Track laying party at Barbara & Jerry Clark's house. More information later.

July 3 – 9, 2006, National Garden Railway Convention, Santa Clara, California:
Web Site: www.bagrs.org/convention/index.html

July 22–23, 2006, RCGRS Summer Tour: Our first meeting of the Summer Tour will be on **Thursday, March 9th at 6 p.m.** at:
General Tool and Supply
2705 NW Nicolai
Portland Oregon 97210

Please let me know if you can come. I would also like to know by e–mail (**bderville@generaltool.com**) if you are willing to have your layout on tour this summer. Nicolai is the first light on Highway 30 to St Helens after you come off the west side of the Fremont bridge.

Editor's Note: awarrior@comcast.net
Pictures and articles are eagerly sought for the newsletter. Help keep your newsletter interesting by submitting materials that can be printed and shared with our members. Please send photos as .jpg attachments. **The deadline for the April newsletter is March 25, 2006.**