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STEAM IN THE GARDEN

Vol. 17, № 5
Issue № 95

Gather, friends, while we inquire, into trains propelled by fire...

Articles

Departments

FRONT COVER:

The Anti-Climax spots empties at the Moria Mining Company on Les Knoll's Rivendell & Midland Railroad. Read about the Anti-Climax in Les's series.

Photo by Les Knoll

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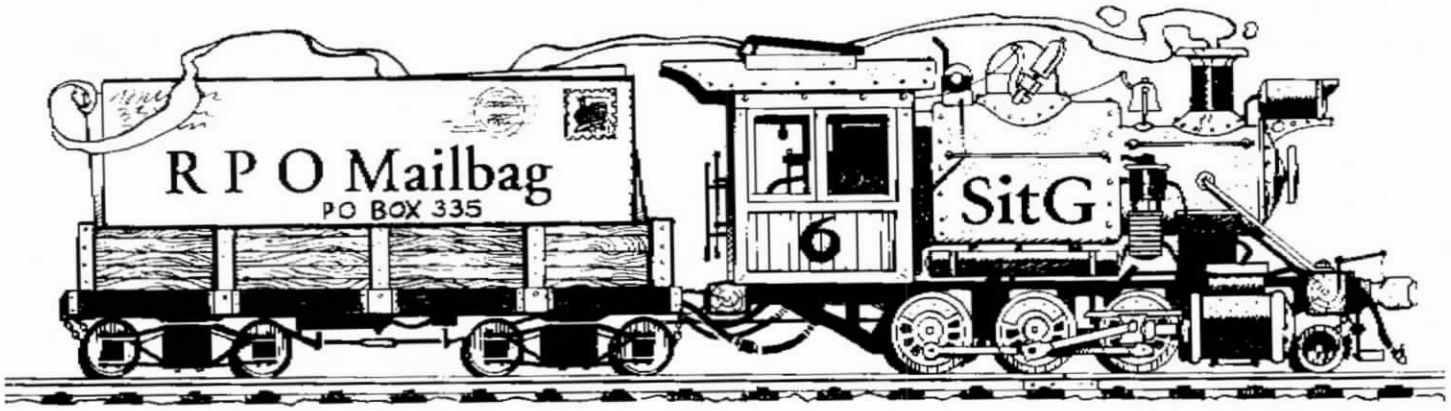


Letters from readers are welcomed and encouraged. Offer advice, encouragement, suggestions or constructive criticism. Tell us about your current project (and don't forget the photos!) or just share live steam experiences. But please keep your letters to a reasonable length so everyone has a chance to use this forum. Letters may be edited for length or clarity. Send your letters & photos to: SitG, Dept. RPO, P.O. Box 335, Newark Valley, NY 13811, USA...or e-mail to <rbrown54@stny.rr.com>.

* * * * * *

Slovenia
via e-mail

Dear Ron,

I studied new # 93 carefully over weekend time. From time to time my wife has asked me why am I so concentrated on reading and she even noticed that I read advertisements too! This is true and I must admit that ***SitG*** is the only magazine where I read advertisements!

Best wishes,

Dimitrij Podobnik

* * * * * *

Seattle, Washington
via e-mail

Ron.

When I flew down to from Seattle to Sacramento 2 weeks ago for the Summer steam up I had a nasty surprise when I opened my suitcase. My steaming toolkit, wrapped in a gallon Ziploc freezer bag, with all the necessary small wrenches, screwdrivers, pliers and whatnot, had been taken by the TSA, the people who inspect your bags at the airport. In its place was a note saying they had removed the hazardous materials and given it to the airline. My error was that I'd put a small syringe of steam oil and another one of 3-in-1 lube oil in the kit. In the last few years I've been to 4 shows a year with this toolkit in my luggage, but this was the first time this has happened. I didn't realize 1/2 fluid oz of steam oil is classified as a hazardous material. They didn't take just the oil, they took the entire toolkit. There is a rather useless 1-800 number you can call, but in the end I contacted the airline (Alaska) who claim the TSA never give removed items to the airlines. Today my son managed to telephone the head of the TSA at Seattle, who explained that a report is made for each removal and so she was able to find out what happened. The report said some of the oil had leaked out of the syringe and so the whole kit was contaminated. They also closely inspected the engine and almost confiscated that as well due to the oil buildup around the cylinders. Why was the engine in my checked-in luggage? Well, I used to take it as carry-on, but on two occasions I had a real long and close inspection at the Security gate, and so I'm afraid one day they'll take the engine off me there. In fact this did happen to Sonny Wizelman a few weeks ago when he was prevented from taking a tender aboard the aircraft after a meet at Jim Haddon's. Luckily he was able to phone Jim who drove to the airport and collected the tender, otherwise Sonny would have lost it for good.

So, what to do? Despite draining and airing the alcohol fuel tank, (and what about a butane tank - you can't get all the gas out of those), our engines still carry enough hazardous materials to get removed at the airport. The big problem is that there is no recourse, they take it and it's gone, end of discussion, you are not allowed to argue the point or negotiate for claiming it back later. Rules is rules - we are not allowed even a 1/2 oz of oil on our person or in our luggage. About the only option left is to send your trains by UPS ground. That is one way we can safely take engines to steamups in the future, of course the UPS parody in the Ace Ventura movie is a reminder to wrap everything in thick foam padding and take out insurance. UPS also does not allow oil to be sent without a special (i.e. costly) permit, so you can't pack that in the box.

I discussed this (actually I sounded off) to a sympathetic Jerry Reshew, and the Sacramento committee. It is possible they may provide steam and lube oil at future meets, to overcome that problem. In the meantime, are there any other ways we can continue to enjoy our steamups and not violate the TSA regulations? We need to resolve this before Diamondhead 2008!

Regards,

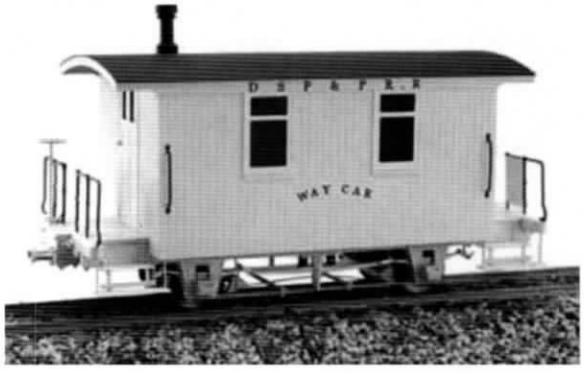
Pete Comley

WHAT'S NEW?

NEW FROM HYDE-OUT MOUNTAIN LIVE STEAM - Now shipping, their new gauge 1 **LIVE "DIESEL" ELECTRIC LOCOMOTIVE**. Fuel it, set the throttle, push the button. Watch a video on YouTube. http://www.youtube.com/watch?v=gSwha_Ug7sk A limited run of 37 of these are being produced. These are built on a Marklin F7 all metal chassis. These models use an OS .15 glow plug engine and a specially made motor / generator for operation. The motor starts the engine, then becomes the generator which powers the truck mounted traction motor, just like a real diesel locomotive. Each model has been test run and adjusted before shipping. Some features are; Electric starting, operating headlights & number boards, throttle control, forward-neutral-reverse switch, cooling fan (which sounds like a diesel turbo charger), aprox. 20 minute run time, noise silencing muffler & oil collection system, Kadee body mounted operating knuckle couplers. It will take a 2' radius, but may require a larger radius depending on the design of any car coupled to it, because of the prototypically correct body mounted couplers. Livery; Union Pacific, Scale 1:32, Weight; 13 lbs, Fuel capacity; 2 oz. Limited 6 months warranty. Accessories supplied; automatic battery charger for start battery, syringe for fueling & oil extraction, instructions, tweezers, extra glow plug & exhaust plug. Contact Jerry Hyde at: E mail; hydeoutmountain@verizon.net or phone 740-946-6611.

Norm Saley, who has a growing line of essential items for the live steam hobby, has just introduced a new fuel transfer device that works on fuel cannisters with a threaded nipple and also those with no threads (like GAZ). As with all of Norm's creations, this one is ingeniously designed and beautifully crafted. Norm has also just released a new fuel transfer device that is designed to work on the butane cannisters available from most Asian markets. He also offers repair, modification and scratch-building services to the live steam community. Highly recommended! To place your order, or to inquire about all the other items in his extensive line, contact Norm by e-mail at: MRTRAIN@aol.com - or by snail mail at: 3709 Vera Cruz Lane, Orlando FL 32812 - or by phone at: 407-896-8610.

Accucraft is proud to announce the production of the Two Axle Transfer Caboose in 1:20.3 scale and 45mm gauge. Our review sample is beautifully crafted, with copious underbody detail. The version we received is the DSP&P Way Car, with a cream paint job. The roof and lettering are black. This is a very striking car with unique appearance. The other version is the Transfer Caboose, with a caboose red finish. Constructed of brass, this is a heavy car for it's size. If you are modeling the DSP&P, this will be essential, and only a limited number of this version will be produced. ORDER INFORMATION: AC83-160 - Caboose, 2 Axle Transfer Version. AC83-161 - Caboose, 2 Axle DSP&P Way Car.



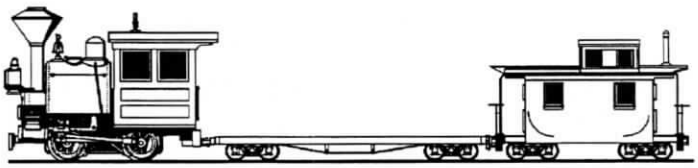
CALENDAR OF EVENTS

Southern California Steamers - contact Sonny Wizelman for dates, places and any other pertinent information. 310-558-4872 ● sonnyw04@comcast.net

Check the Calendar of Events on our web site (http:steamup.info) for regional and club events.

January 18-20, 2008 - International Small Scale Steamup and Arts Festival, Diamondhead Resort, Diamondhead, Mississippi. This the big one...don't miss it! For location, registration and further information, check the web site at: http://www.diamondhead.org/

Because of publication lead time, please send info for Calendar of Events well in advance. Include name of host and location of event, with address and/or phone number to contact for complete information. Some basic info about the site is also useful (i.e., ground level or elevated, minimum curve radius, ruling grade, etc.)



Accucraft's D&RGW K-28 2-8-2

by Joe Hall and Charles McCullough
photos by Joe Hall and Jason Kovacs

Two reviewers cuz it's twice as big!

TECHNICAL SPECIFICATIONS

Scale/Gauge	1:20.3 Scale/ 45mm Gauge
Minimum Radius	1.2 M, 48 in.
Weight:	35.5 lbs (16.12kg)

Locomotive information:

Length:	24 inches (609.6mm)
Width:	6.25 inches (158.75mm)
Height:	8 inches (203.2mm)

Tender Information:

Length:	16 inches (406.4mm)
Width:	6 inches (152.4mm)
Height:	7.25 inches (184.15mm)

Fuel:	Butane
Valve:	D-Valve
Valve Gear:	Walschaerts
Boiler Type:	Dual Flue
Lubricator:	Displacement Type
Pressure:	60 psi
Tender:	Water Hand Pump
Fittings:	Two safety valves, pressure gauge, water gauge, blow down valve, throttle valve
Features:	Cylinder drain cocks, tender water pump, working cab doors

Joe Hall

In 1923 the Denver & Rio Grande purchased 10 K-28 Mikados from the American Locomotive Company in Schenectady, NY. These engines, with their 44" drivers, were more powerful than the K-27s and were put to use in passenger service. In WW2, the US Army bought seven of the ten to use on the strategic White Pass and Yukon line in Alaska. At the end of the war, all seven were scrapped. The remaining three, 473, 476 and 478 were sold to the Durango and Silverton where they ran on the Silverton branch from the 1950's until 1980.

The Accucraft K-28 is a powerful engine that looks and acts like the mighty steamer that is its model. The first impression is one of great size and strength and drew admiring onlookers whenever it was running. I took it to a steam-up at Ron Brown's home in upstate New York where, as it happened, Jason Kovac had brought his K-28 and we had a go at double heading. We pulled about 35 cars without the 28s breaking a sweat. I really don't know yet what the limit would be on dry track. Fun!

Runs of an hour are the norm. There is no more satisfying moment when firing than to see the engine move away smoothly and steadily which was the case right from the beginning and always when the Johnson bar was in the full position. Moving the bar to the first notch produced a jerking motion.

One of the more pleasurable things with an engine of this size is the beat of the cylinders. It was with real pleasure that I could hear a pronounced and satisfying chuff during each run.

Air compressor pumps are mounted on the front of the smokebox in the same manner as the prototype. Since you cannot open the smokebox door in its entirety there is a small door on the right side. Through this door you can see directly down the right side flue. You cannot, however, see down the left side flue at all. Jason said that he could see a small reflection of the fire off one of the superheater tubes on the left side. Otherwise, you will have to rely on your ear to hear the sound of both flues firing. I don't think that you will have a problem with this; I could hear the difference easily.

Back home, Charlie McCullough and I took turns running. Charlie and I live in Cedar Rapids, IA where we have very different tracks. Mine is a portion of my garden railway that is level and is about 18" up from the ground. Charlie's is 150-ft of track in a double-loopback at waist height for "Steam Only" that would short out any sparkie that would try to sneak in. We seem to be the only gauge 1 steamers in the state running on a regular basis, although we have found that there are a few Rubies here and there safely hidden in closets.

If this is the first such large engine that you have experience with, there are a few points that you will have to deal with.

First, the jets are fitted with a filter that may not work well for you. When I first fired the engine, one of the jets would go out after about one minute. I checked the jets by exchanging their positions and blew gas backwards through them but the problem persisted. A call to Cliff Lusher of Accucraft produced the strong suggestion that I remove the filters. This done, the engine ran with the sort of reliable service which I have experienced with other Accucraft engines.

Second, experience with smaller engines may have encouraged you to run with the gas valve open a small amount. You will, most likely, have to open the gas a lot further with this locomotive.

Third, the engine is fitted with drain cocks on the cylinders. Make full use of these devices by opening them up when you fire and closing them when you are ready to move. This will eliminate much or all of the initial sputtering produced by cold cylinders.

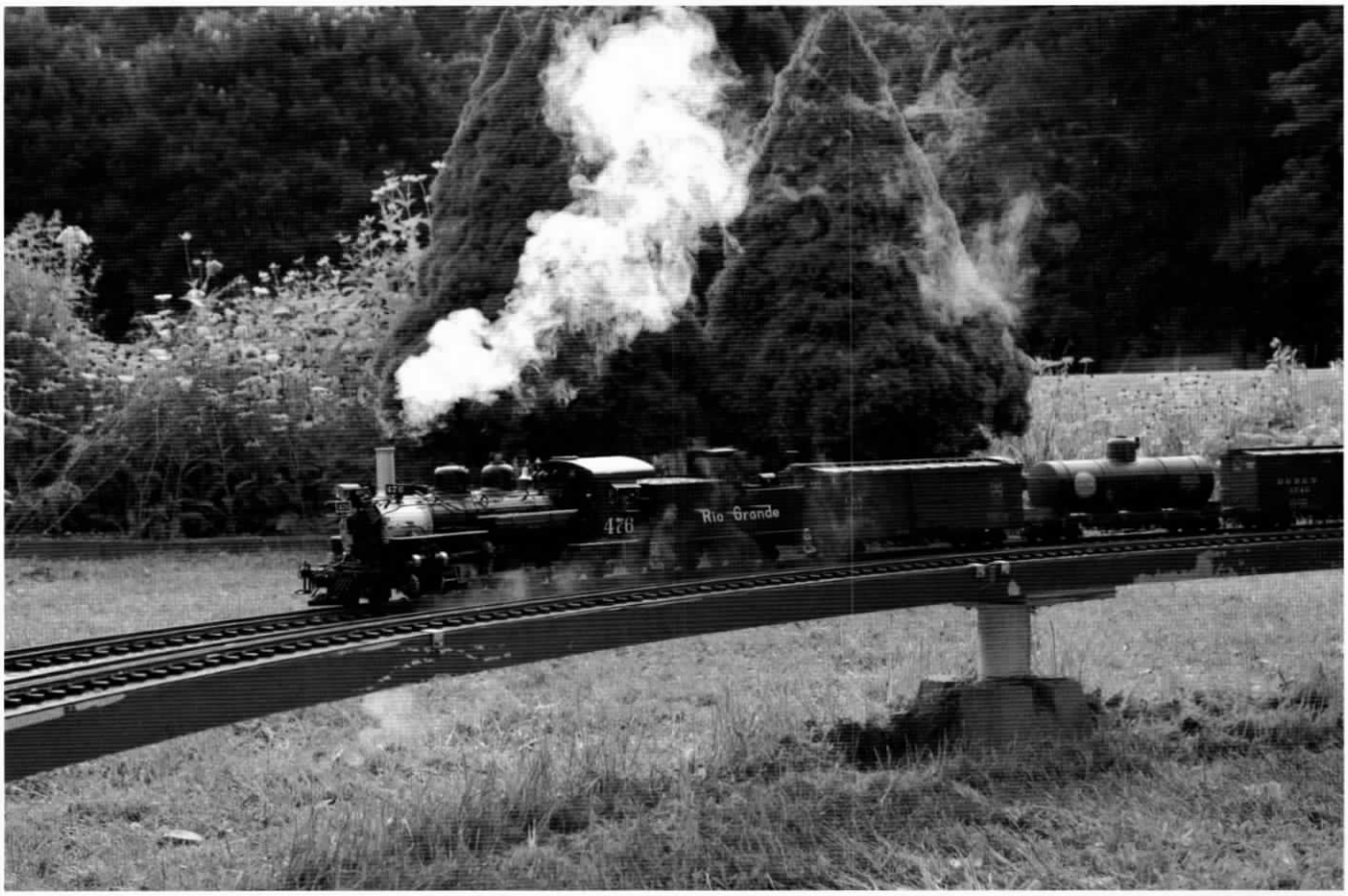
Fourth, initially filling the boiler with water with the tender pump resulted in uncertain readings in the sight glass. When I filled the boiler directly from the top, then drawing off about 45ml of water, the glass was far more reliable.

Fifth, track levelness from side to side is an issue. The engine is sure footed only if this aspect is carefully observed.

If you enjoy really smooth, continuous running, don't refill the boiler all the way up during the run. It will be more satisfying to raise the water level about 1/4 of the way, run the train once or twice around and then add another 1/4. If you add enough to refill the boiler near the top, you will have a wait as the pressure builds again.

The water pump in the tender was connected to the engine with a rather soft black hose that swelled up like a balloon when attempting to add water under running pressure. This caused quite a bit of concern, not to mention sparking plenty of humor among onlookers. I substituted an automotive water line and the problem went away. I did have to pause one or two seconds at the end of each pull of the lever to allow the water to finish moving into the boiler.

There is a drawbar with four holes that functions as a coupler to the tender. The last two holes are for



K-28 with a beautiful plume at Paradise East steamup. This locomotive has more than enough pulling power, and is very smooth in operation. **photo by Jason Kovacs**

layouts with short radii. The two closer holes work fine, but coupling at the back two made reversing direction dicey. About half the time the coupling would fail. When coupling closer, you must deal with the function of the footplate as you go around corners. I would suggest moving the engine through your corners by hand power before the first steam run.

I enjoyed this engine so much that it, or one very much like it, will be in my collection soon. The strength, running characteristics, imposing appearance and reliability make it the sort of engine that you simply can't wait to run.

* * * * *

Charles McCullough

This is a BIG engine! Very nice detailing and, I believe, well made. Did I mention that it is a BIG engine? Well... it is! I found it almost impossible to pick it up with out feeling like I was about to break or bend something.

I eventually learned to set the carrying tray (it was shipped with) on the track and then roll the locomotive backward off of it. The stack of the locomotive can just barely fit under the tray handles if the loco is "backed" off the tray to get the drive wheels off first. It can be put back on the tray by carefully lifting the front truck wheels and pulling them onto the tray and then lifting the front drivers onto the tray as the locomotive is pushed from behind.

This was my first experience with actually using Butane to fire an engine (all of mine are alky's) and Joe's first time with dual flues. I let him take the lead on it and agreed with him on how to set the gas valve similar to how he runs his Ruby and 3-cylinder Shay. Joe's contact with Cliff Lusher indicated we needed to open the gas valve nearly twice as far... it makes sense now, there are TWO burners after all and that would require more gas than a single burner. At the low setting, one of the burners would make a loud "burping" sound (quite rude!) and when that quit the sound would be "different" and we learned that meant one burner had a flameout. That burner would not re-light from the other burner and we had to open the smokebox door and relight it with the Bar-B-Q lighter.

The Accucraft K-28 passes under the tented steamup area at the Paradise East steamup in August, 2007. **photo by Joe Hall**

The Sight Glass was troublesome at first. We found that completely filling the boiler to the brim and then withdrawing some water for "steam space" helped the Sight Glass to be more accurate. Apparently, this helps wash out air bubbles from the pipes and the Sight Glass works lots better. It could also be that, over time, water usage has washed out oil or other contaminants, which interfered with the water flow in the Glass.

The specifications state the minimum curvature to be 4-ft radius, and we found that to be the *absolute* minimum. We had some problem with the center driving wheels dropping off the outside rail on my 8-ft radius loop-backs. We also found that it is very wide and has lots of overhang when in a curve and this required some MOW work to adjust for clearances on Joe's ground level layout. I had to replace my "through girder suspension bridge" with an under girder structure.

Early on the pressure was "pegging out" the pressure gauge at 80-psi and the safety valve was blowing constantly. Before we got the Sight Glass working more reliably, I kept trying to inject water using the tender hand pump (hey, the Glass was "EMPTY"!). Each time I worked the pump handle the hose looked like an aneurism! Eventually the hose burst near the boiler. The fitting at that place was too hot to touch at that time.

Initially we replaced the factory hose with a silicone hose that I put spiral springs around. The springs kept the hose from getting "fat" (like the original one had done) but silicone hose is quite stretchy and it would increase in length by almost one third on each stroke of the pump handle. Joe then replaced it with an automobile fuel hose that seems to have cured this. But, I note that the boiler pressure is now peaking at less than 60-psi and the Safety Valve has just a slight wisp of steam coming from it, so I don't know if the original hose might have worked okay at this pressure.

Double-headed K-28's pulling a very long train through the curve on the "Brown Bean" at Paradise East. **photo by Joe Hall**

I really do not attribute the improvement of the running characteristics to just Joe and I learning how to do it better. I really feel that the engine has improved all on its own.

The engine is equipped with real Walschaert's Valve Gear. The Combination Lever is properly configured so you can "notch up" on the Reverser Lever to save steam after getting started. Of course, this requires radio control or a quick hand on the Reverser Lever while the Locomotive is in motion (hard to do in the confines of the cab next to the hot boiler!). I noted that if the Reverser Lever were too close to the center position, the engine would run on just one stroke from one half of one cylinder and it would "lope" heavily. One time the Tender had come loose from the Locomotive Drawbar and was being towed along by just the fuel and water hoses. These are long and flexible enough that the pair looked like an inchworm alternately stretching out and bunching up, sloshing water out of the tender all over the place.

All in all, this is a beautiful locomotive and if I weren't a dyed-in-the-wool Standard Gauger, it would easily pull me into Narrow Gauge railroading!

Note: Accucraft has informed us that regarding the water feed black tubing issue, they will replace the current tubing with Polyurethane tubing that has been tested and approved by Mr. David Hottman and Mr. Robert Pennock for all future live steam models. They will also supply the tubing free of charge to customers who have been experiencing similar problems. - ed.

Workshop Project

The Ultimate Ruby Conversion?

by Harry Gray

In 2005 I attended my first Diamondhead steamup, and saw a number of Ruby conversions. I decided that mine could do with a makeover, but did not want to turn her into a Forney. We have a small Mogul here in Lakeland, Florida, which to my eye seemed to have a similar cab to Ruby. I thought that it would be a good example to loosely base my conversion on. Scale is about 16mm, although gauged to 45mm. The original locomotive belonged to the Virginia-Carolina Chemical Corporation, and used to work the phosphate mines down here. She was built by the American Locomotive Company in 1922, worked until 1958, and was given to the City around 1961, placed in a park and has been rusting away since then.

The first step was to extend the frame, which was silver soldered to the original. An extra set of drivers were obtained from Accucraft. I decided to keep the existing locations of the original two axles, to avoid having to rebuild the valve gear train. Due to the overall proportions, the rear set of drivers could not be spaced too far back. Mike Simpson had a set of larger cylinders with 9/16" dia. bores, which he was kind enough to show me. After discussing my idea with Norm Saley, I built a set for myself, retaining Ruby's valve chests.

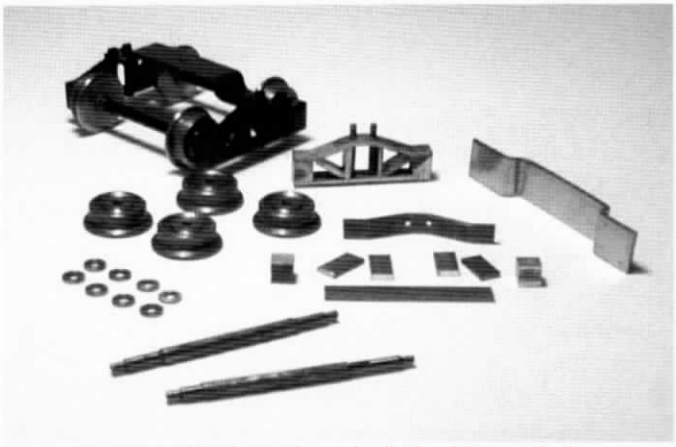
To accommodate the longer frame, the boiler had to be lengthened, the existing smokebox had to be cut from the original boiler and a new one turned from a length of brass shaft. When completed it was secured to the boiler with screws and solder. The old cab floor was used, but proved to be far too large and out of scale. The floor was trimmed to the correct size and a new cab constructed.

The tender was formed on a wooden master. The sides, top and bottom were then soldered together. The tender contains a gas tank, which is immersed in water to act as a heat sink and prevent icing up, as there is no residual heat from the boiler. Frames for the tender arch bar trucks were formed on a male/female die using a press. The parts were then assembled and silver soldered together. Wheels for the tender and pony truck were turned from steel blanks on a mandrel in the usual manner.

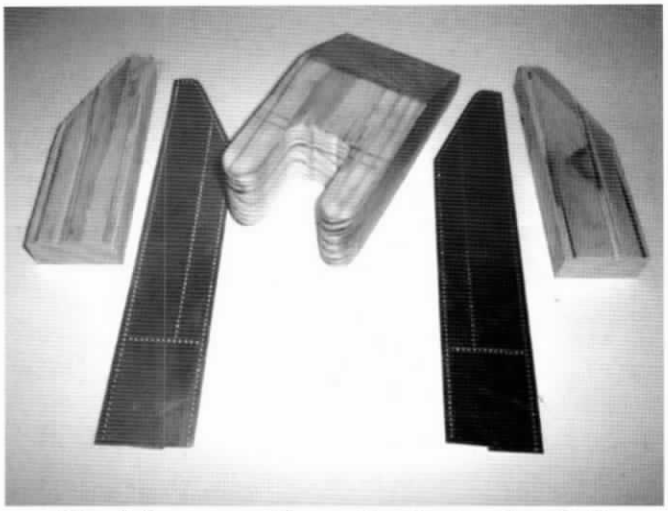
Due to the large smokebox, which acts as a heat sink, the gas flame has to be turned up fairly high. I started with nitrile O-rings on the pistons, which did not last and have been changed to viton, which seems to be standing up very well. Due to the small capacity of the original boiler, runs last for ten to fifteen minutes. The boiler is equipped with a sight glass and a Goodall valve, so with topups runs can be extended.

I was able to obtain 3/16" vinyl letters from G Scale Graphics of Colorado, which worked very well.

I have installed a second gas delivery system, which consists of a copper pipe beneath the tender, projecting in the form of a threaded nipple at the back of the tender, to which a hose can be attached. The hose runs from a proprietary butane container housed in a suitable piece of rolling stock. It is a really neat setup, which obviates the need to fill the tender gas tank for each run. The gas flow control valve is at the butane tank. I saw this system used by two of the group with whom I steam, and it is extremely efficient. However, a close watch has to be kept on the level of the water in the boiler, as one has to remember that one is operating with an almost unlimited supply of gas. I am currently converting my other engines to the same system.



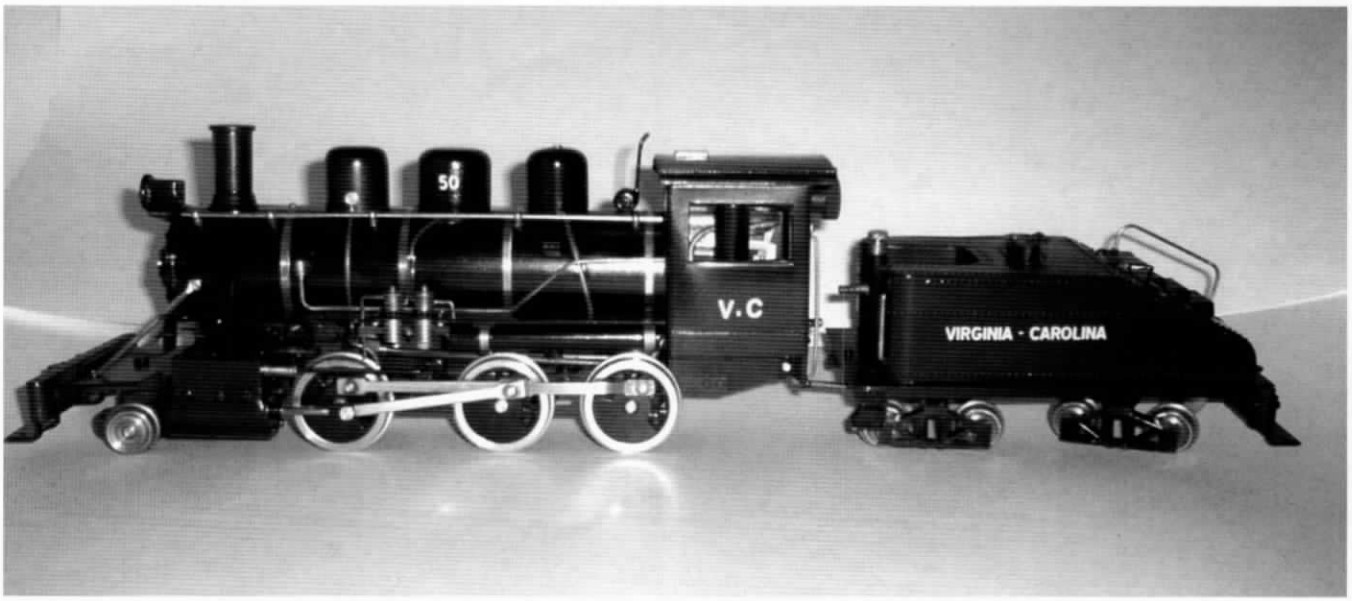
An assembled truck and all the bits and pieces used to build it.



Wood forms and brass for the tender shell.

Prototype upon which the model is loosely based (see text).

Completed loco prior to painting! Note that the tender is on temporary trucks and some details are yet to be applied to the locomotive and tender.



Painted and ready for revenue service!

The People Bridge

by Robert Trabucco

Every elevated track should have one of these!

The primary reason for building the people bridge was to access the inside of the Paso Robles track. Due to its large size, (32 by 60 feet) and our facility dimensions, it required that we place up to 16 participant tables and one entire track, inside the loop. This equates to a fair amount of traffic moving in and out during operating hours.

The track, as we acquired it in 2004, was supported on inexpensive folding saw horses at a rail height of about 36 inches. This is fine for viewing, but is a pain in the back for all the steamers. It was almost impossible to crawl under, and presented safety issues to go up and over the top. In addition the saw horses were finger mutilators, as some of us found out the hard way.

After much discussion, it was decided to raise

The "People Bridge" in place on the big track at the 2007 National Summer Steamup in Sacramento, California.

the track height to about 41 inches, and mount it on folding legs for the next (2005) year's event. Then, decide if we would add a people bridge for the following year (2006).

Adding a bridge section to the track without compromising an existing module would also require the construction of a filler module for the opposite side of the track. As this configuration added eight feet of running track, no one had any objections.

The design requirements I set up for the bridge were several:

With the bridge in the open position, the mechanism is visible.

1) Must have a frame rigid and tough enough to withstand multiple moves, setups, transport handling, and maintain alignment.

2) The whole bridge module not so heavy that one person could not move it, if necessary.

3) The bridge module is compatible with the existing track modules and fastening system.

4) Track is capable of being setup, with or without bridge and filler module, if desired.

5) The movable bridge must open and close reliable and not walk out of alignment with heavy use.

6) Prevent the bridge from dropping if released inadvertently.

7) The bridge action is lockable, so that it could operate under the control of a bridge monitor, or track marshal.

I did a little research on bridge solutions from other individuals and groups on both electric and steam layouts, and looked over some commercial bridge offerings. All in all, it seems that each application has its own requirements. So you pick and choose features applicable to your individual project, and budget.

Construction of the main frame from 1 inch square, cold rolled steel tubing is fairly simple. The focus here is to get it together and finished square. Clamping sections to a pattern table and tack welding the joints first is a big help. The trusses on the bridge unit were done the same way.

After all the main parts were welded together, the whole unit was assembled and checked for fit. Miscellaneous hardware items were fabricated and installed. The wood decking, side rails and floor ramps were cut and installed, along with the locking mechanism. The brackets for the gas springs were temporarily clamped in place, and adjusted for desired operation, then welded. All components were then taken apart and cleaned for painting, then reassembled.

The last task was to attach the bridge module to the adjacent track module sections, then cut and lay the actual track. Each piece of rail is pinned to the ties so that they won't move out of position with handling or transport vibration.

The bridge module is moved in the "locked" configuration to increase rigidity and hold alignment during transport, and when setting up at a location.

National Summer Steamup 2007

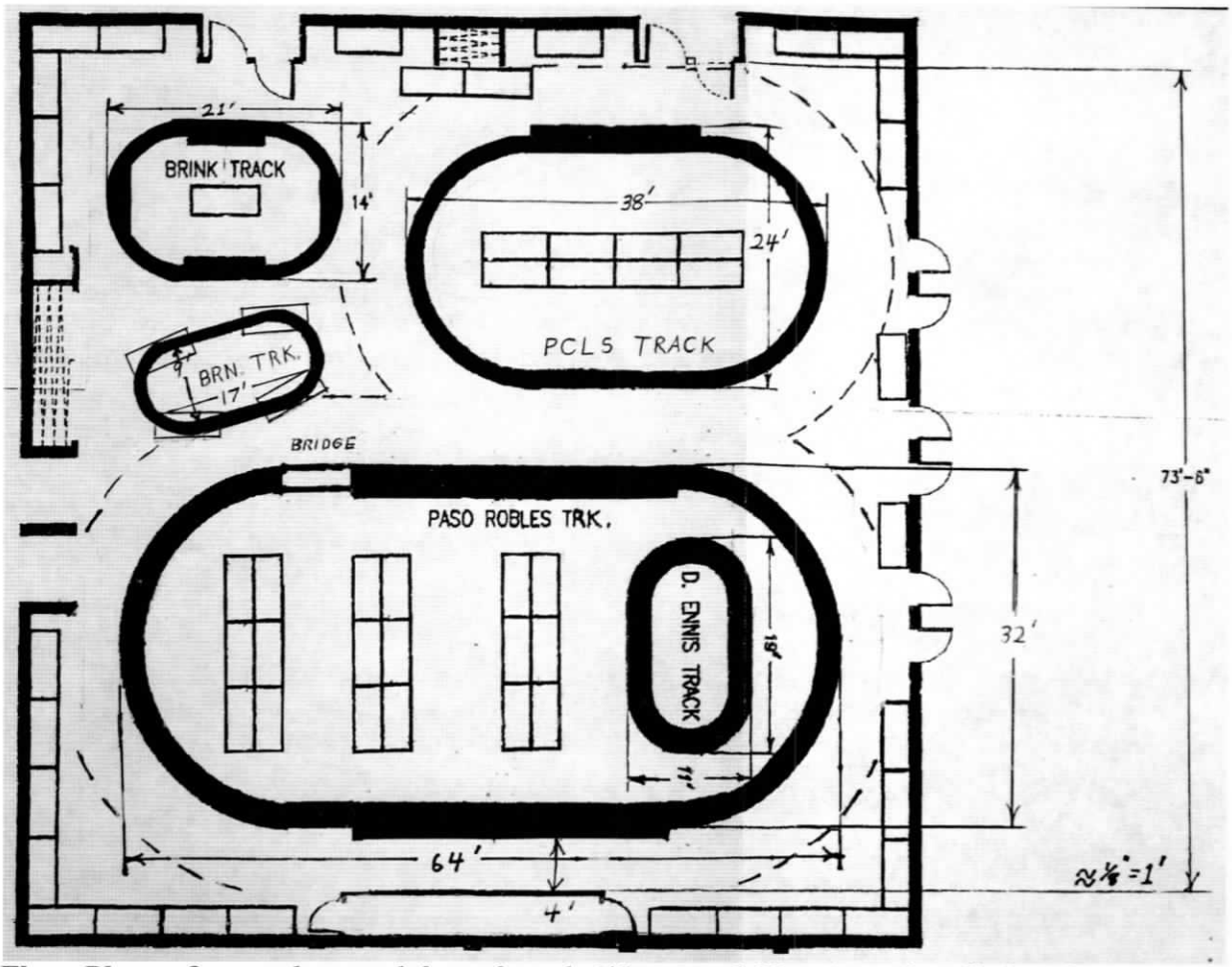
a report by Jim Pitts
with photos by Jim Pitts and Mike Martin

The National Summer Steamup 2007 was hosted by Steam Events LLC, July 18-22, 2007 in Sacramento, California. Celebrating their 10th anniversary and 5th year at the Lions Gate at McClellan Park, this year's gathering attracted 106 live steamers.

The majority (80) of registrants were from California, while 26 others came from Oregon (6), Canada (5), Florida (3), Nevada (2), South Carolina (2), Washington (2), Arkansas (1), Colorado (1), Mexico (1), Mississippi (1), Texas (1), and Utah (1).

Dave Cole, Tony Dixon, Clark Lord, Jim McDavid, Bob Trabucco, Bill Turkel and Sonny Wizelman; the "magnificent seven" dressed in denim shirts were welcoming and prepared hosts. Their invitational warmth, collegial spirit and attention to detail create a first class and comfortable event. Pat Dixon coordinates clothing memorabilia with Barbara Coley providing "on site" monogramming.

The organizers are continuing a tradition that Richard Finlayson initiated 11 years ago. It is hard to believe that the patriarch of this event is now only 44 years of age. After seasons of wandering

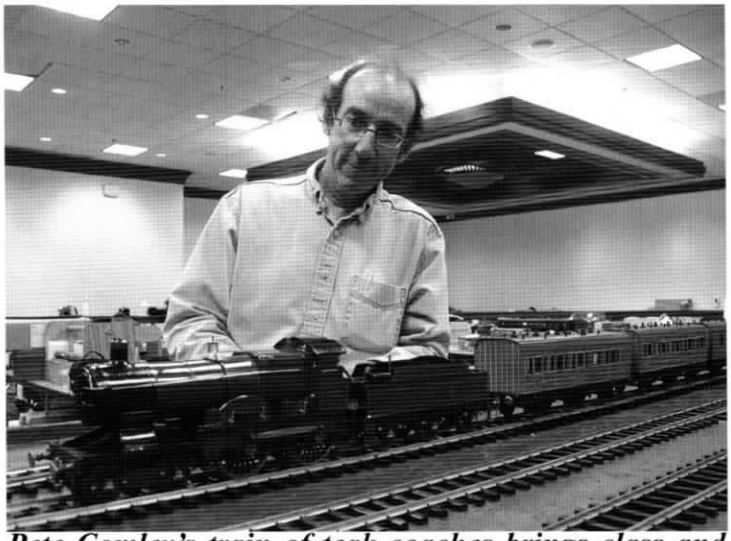


Floor Plan: ***Over a thousand feet of track (45mm and 32mm) on five distinct layouts were available 18 hours a day.***

Lord Geoff coules two locomotives back to back under the watchful gaze of Jerry Reshew and Hans Huwyler.

Rob Meadows smiles as his Aster Pannier Tank in GWR (God's Wonderful Railway) passes in review.

Dealer Room with exhibits by Accucraft, C&OC Railway and Sunset Valley. In this photo, Paul Brink (l.) chats with Pete Comley of Sunset Valley.



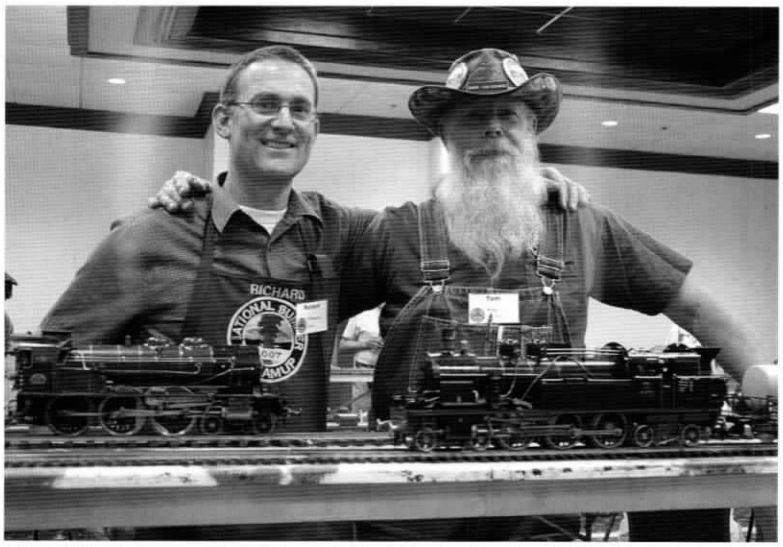
Pete Comley's train of teak coaches brings class and credit to the G1MRA members in attendance.

Duke Nguyen beams as his Aster BR62 with 2 headlights, 2 rear lights and 6 side lights steams for all to see.

Mike Martin demonstrates his scratchbuilt, very small (.220" bore) stationary oscillator and boiler.

Proof that the Shay-Up is an equal opportunity competition.

Peter Lenicheck's Ruby prepares to steam.



Two "old timers" at the National Steamup. Richard Finlayson (l.) and Tom King.

To see things at eye level, little guys stand on their feet and big guys have to kneel.

Phil Oldenhage's BAGRS inspired loco, complete with crew.

The last train running on Sunday morning was an Aster NKP Berkshire operated by Howard Freed....under the careful scrutiny of Peter Lenicheck.

from Sunnyvale, Pleasanton and Fremont, CA, the National Summer Steamup has made their annual oasis at the Lions Gate at McClellan Park, Sacramento, for the past five years.

NSS 2007 offered inspiration and orientation, instruction and supportive fellowship. Many of the friendships established here continue to sustain us across the years and miles. It is truly a time for both introductions and reunions.

Over a thousand feet of track on five distinct layouts are available 18 hours daily (from 7 AM to 1 AM). With track gauges of 45 mm and 32 mm, both mainline and narrow gauge locomotives are easily accommodated. Tracks are in excellent condition and alignment thanks to Tom King's track building and repair. The largest system – Paso Robles – features 482 feet of track, 15 foot radius and two steamup bays. Also, an impressive lift bridge has been constructed by Bob Trabucco to allow steamers access to the inner loop area without crawling under the track work.

Clinics were offered on a variety of topics. Jim Gabelich presented "Hints and Kinks on Radio Control." Richard Finlayson traced his steam sojourn from small scale to ride on live steam in his "A Walk Around the Live Steam Block." For hands on designers and dreamers; Mike Martin demonstrated a "CAD (Computer Assisted Drawing) and the Live Steamer." Marc Horovitz's PowerPoint presentation was an "Introduction to Live Steam Locomotives." His review of small scale live steam classic engines was a reminder of how far we have come, and covered operating techniques all should know.

Displays were presented by Accucraft Company, California and Oregon Coast Railway, and Sunset Valley. Aster's forthcoming BR-9F 'Evening Star' and the Great Northern S2 were the subjects of informal conversation. An informal report on G1MRA's 60th anniversary celebration in the UK was offered by Chris Coley and David Leech. As our idyllic days in Sacramento were concluding, we learned of the floods in the UK. While bathed in sunshine and gentle breeze, we were grieved to learn of the hardship and difficulty being experienced by our friends and colleagues across the pond.

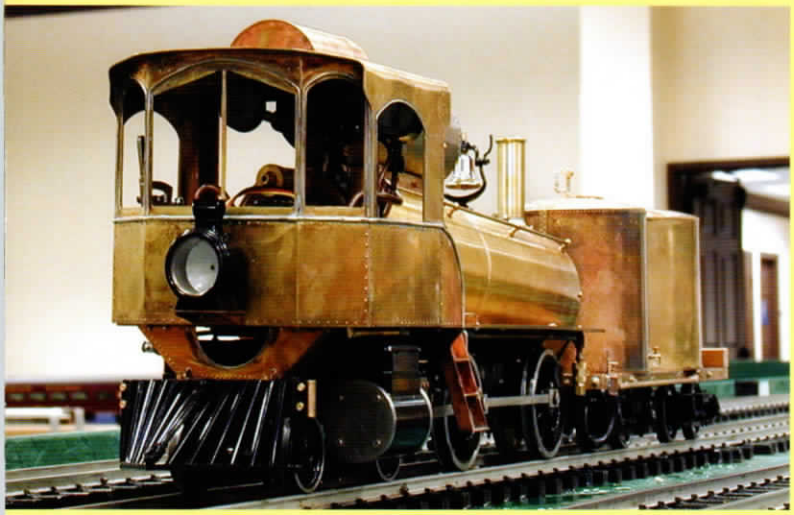
Come Saturday, the "Shay Up" begins the evening festivities. This year, while a new record was not established for "The Wizelman Book of World Records," 18 shays steamed up and made three consecutive loops around the Paso Robles track. The record set in 2007 Diamondhead of a 29, 30 or 31 (depending on who you ask) Shay parade still holds first place.

Following the Shay Up, the 100 plus registrants gathered for a "California" Barbeque in the evening shade of the Lions Gate Pavilion. The crowd was then drawn back into the Grand Ballroom for a track side door prize drawing. Steaming continued until 1 AM and then resumed on Sunday morning.

The last train running was an Aster NKP Berkshire operated by Howard Freed. Tracks were then closed and the breakdown began. Steaming in Sacramento at the Small Scale National Summer Steamup will return July 16 – 20, 2008. Details on 2008 are posted on their website: http://www.summersteamup.com

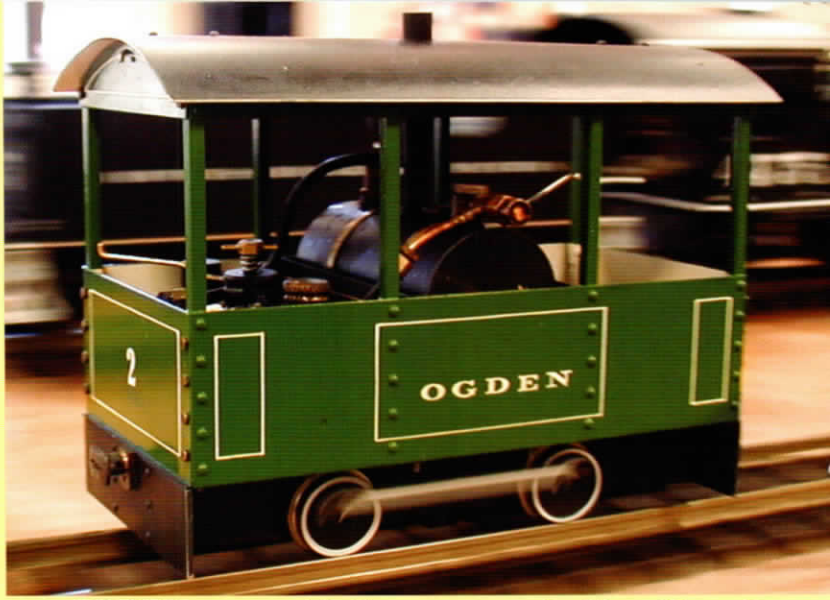
Dwight Ennis proudly beams about his "work in progress" locomotive build.

Smiling faces gather in a happy place for a "children of all ages" summer celebration.



An early Norther Pacific Coast Cab Forward crafted by Dwight Ennis. Truly one of a kind!

Gary White works on his Americanized Aster Mogul.

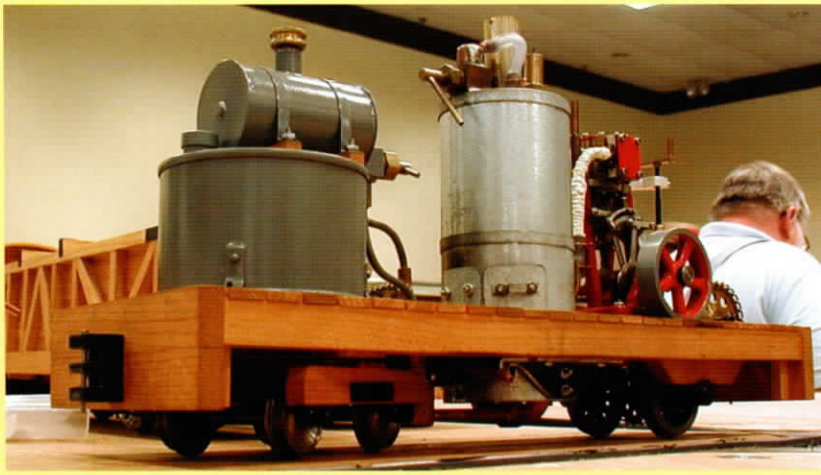


OGDEN, a scratchbuilt steam tram by Marc Horovitz.

Anne Stephens runs her Accucraft Edrig.

The Dennis Bowie family having a great time at the steamup

Gary White & Richard Finlayson offer Charley Lix their unsolicited advice.



Unidentified loco. If this is yours, please write and tell us about it.

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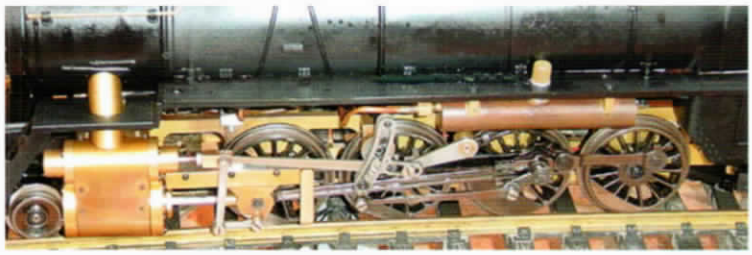
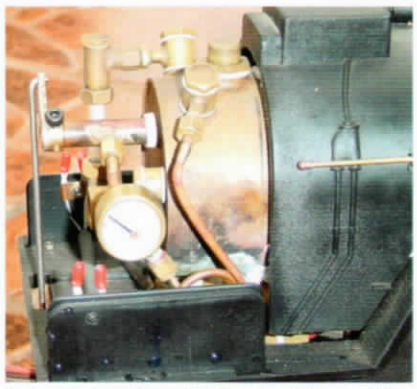
  ART84101 Pennsylvania
  ART84102 Santa Fe
  ART84103 Rio Grande

**Transmitter batteries not included





Photos are of Engineering Sample. Appearance of production model may differ. Cylinders, under frame & many other metal components will be blackened.

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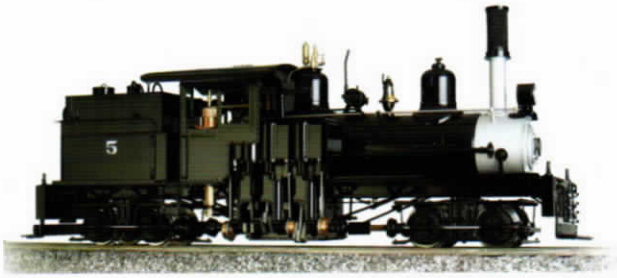

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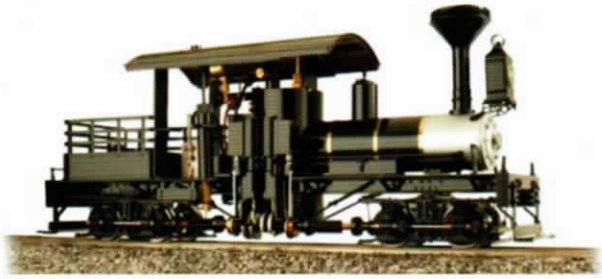

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The Nuts and Bolts of Shays

Regauging

By Dan Rowe

The Shay locomotive was the most successful articulated industrial locomotive built. They were built in gauges ranging from $19^{11}/_{16}$" to 66". Each tonnage class had a minimum gauge when built with standard construction. A lot of Shays were built for projects that did not last as long as the locomotive. It was a fairly common practice to regauge a Shay and at least one was regauged even before it was shipped.

The Lima Locomotive Works engineers designed two different ways to change the gauge of a Shay locomotive. The most common method was to change the engine mounts so the crankshaft lined up with the line shaft on straight track. This was necessary because the telescopic section of the line shaft has a limited range of motion and the locomotive is designed to work on left and right curves to a minimum radius. This system will be covered in the second half of the article.

The second method of regauging was to use a dual gauge axle. These axles were designed to convert between two different gauges. I have seen several combinations of gauges including 24"/36", 30"/36", 42"/$56^{1}/_{2}$" and 36"/$56^{1}/_{2}$". Figure 1 shows two dual gauge axles on the top compared to the single gauge versions on the bottom. Axle No. 35 is standard gauge axle and No. 37 is 36" gauge, both are for iron track. The top two axles are both 36"/$56^{1}/_{2}$" dual gauge axles. The special finish version of axle No. 35 uses the same wheel centers as axle Nos. 35 and 37. Axle No. 94 is a later redesign of No. 35 special finish axle.

The engine mounts were designed for the larger gauge of the combination. The width of the truck side frames were also set for the larger gauge. The wheel fit section of a dual gauge axle was machined extra long on both sides. To change the gauge the left and right driver were pressed further on the axle an amount equal to half the difference of the gauge change. Obviously the gear had

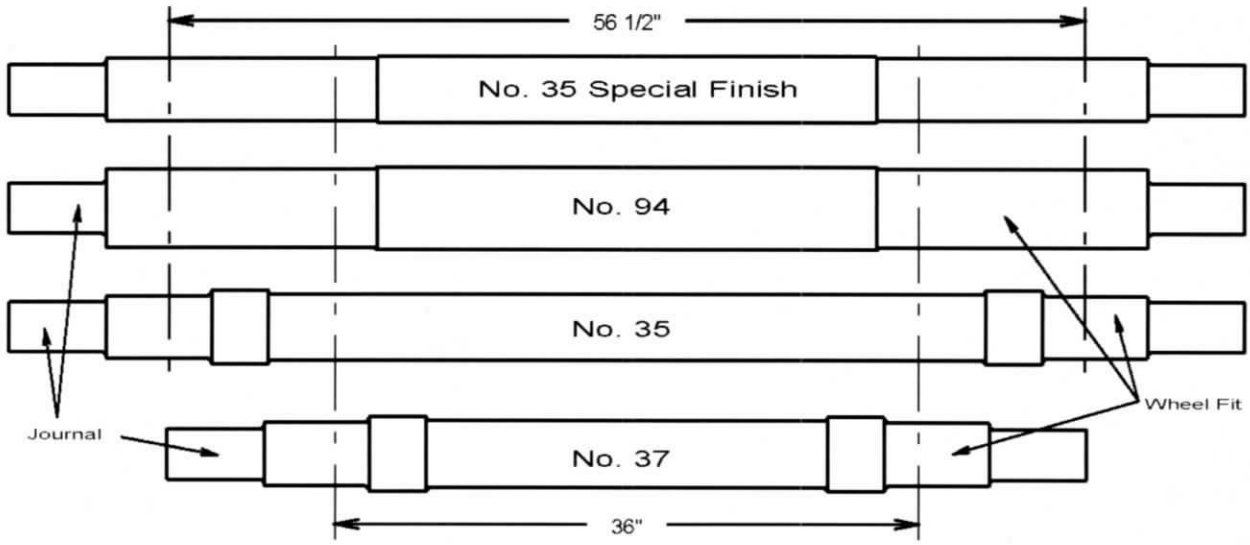


Figure 1. Axles for 15 & 18 Ton Shays

to stay in the same spot to engage the line shaft pinion. Figure 2 shows the spacer, called a gear back, that is bolted to the right driver and the gear flange. The length of the center hub and the distance between the bolting faces on gear back 8806 is $10^{1}/_{4}$".

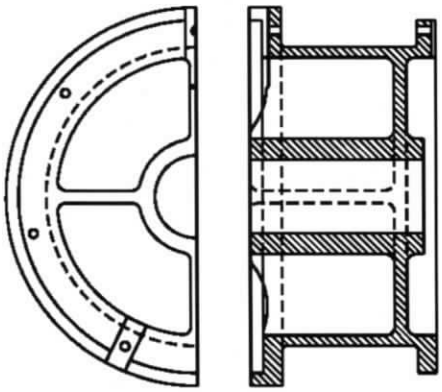


Figure 2. Gear Back 8806

When the special finish axle No. 35 is set for 36" gauge, the hub of the left wheel center no longer touches the back of the left bearing pedestal. There had to be spacer because the bearing boxes do not have a back cover. The only thing that keeps the bearing brass in place is the wheel hub. I have not been able to find the name of this part or a drawing.

Axle No. 94 is the redesign of this dual gauge axle with the left spacer built in. The larger shoulder between the journal and the wheel fit restrains both the right and left bearing brass. Axle No. 94 was designed for shop number (S/N) 2500. The drawing card index shows that this Shay was equipped with gear back 8806, which means that the loco was 36" gauge. I have found dual gauge axles without listings for gear backs, so I assume that they were set to the larger gauge. S/N 2500 was completed on 1/5/1912 for the Yellow Pine Mining Company in Jean, Nevada. The owners may have been considering regauging the line to standard gauge in the future. A second Shay – S/N 2793, shipped 7/15/1916 – was built to the same plan as the first one but with axle No. 37, which is a 36" gauge axle.

The unsuccessful search for photos that show evidence of this design led me to a reference in the book "Pino Grande" by R. S. Polkinghorn. In the section about Shay #14, S/N 2183, he states "Number 14 had either once been standard gauge or was built by Lima for easy conversion." This Shay was equipped with a 36"/$56^{1}/_{2}$" gauge axle so I believe that both statements are true.

The detective work involved in this research made me realize that I made an error on the standard truck drawing in SitG issue #90. In my drawing, the wheel center hubs do not touch the backs of the bearing boxes, and for the reasons already mentioned this will not work. I made my own truck assembly drawing from the parts listed on the drawing card index for most of the work. However, I used the wheel center and axle from LLW truck plan drawing card 16020. This LLW truck assembly card was drawn for S/N 1928. The hubs in the LLW drawing are shown nearly touching the bearing boxes, which is correct. A careful measurement of this drawing revealed that the side frames in the top view are drawn too close together, and that is where I scaled the wheel center. I corrected the mistake in the full drawing of S/N 1928 in SitG issue #93. The front and back views show the wheel hubs extending to the bearing boxes.

The primary method of regauging a Shay is much better documented in LLW drawings. The cross-sectional plan drawing shows the angle of the engine and details of the reverse linkages. The early plan drawings usually include this with the side elevation and the top view of the frame. Later plans have a separate cross-sectional drawing or an 'end supplement' drawing for every gauge that plan was built for.

The three end supplement drawings for plan 1895 are shown as Figure 3. A comparison of these three drawings shows the normal LLW design system. The upper engine mount is the steam bracket. This bracket is bolted to the boiler and also serves as the steam supply and exhaust manifolds.

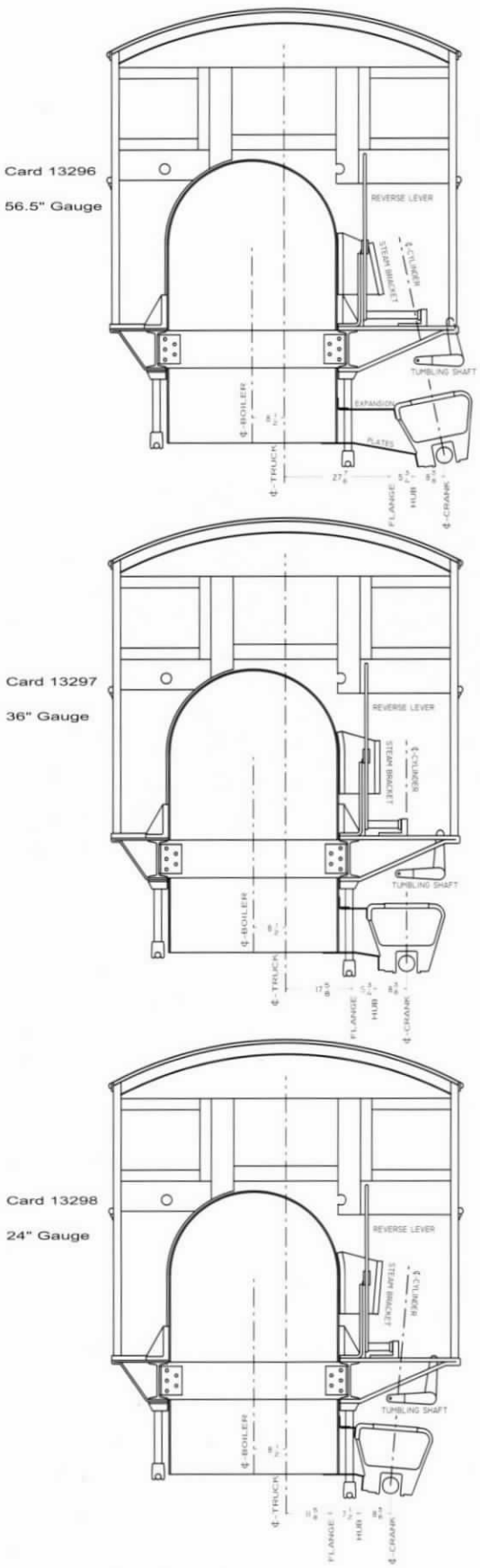


Figure 3. Plan 1895 End Supplements

The back sides of the cylinders are bolted to the steam bracket so the face of this bracket is what sets the angle of the engine. The lower engine mounts are the expansion plates, which are made of thin plate and bolted to the bottom bracket and the boiler. These plates are designed to flex so as to not strain the boiler or engine with different amounts of thermal expansion. The reverse lever stand and the tumbling shaft angles are shown. The arm of the tumbling shaft that connects to the reverse lever is always drawn horizontal. This is the mid-gear position of the reverse lever. The length of the reverse stand is varied so the universal ball coupling, which is not shown in the drawing, will be vertical.

I mentioned in SitG issue #90 that S/N 1928 was regauged to 42". Because the only thing that was ordered from Lima was the steam bracket, the only new drawing LLW made was a supplemental steam bracket drawing. The W. M. Ritter Lumber Co. that bought the loco was a large outfit with timber operations in several states running on different gauges of track. New axles and all the diagonal and cross members of the trucks were needed for the wider gauge. The men in the Ritter shops had the equipment and experience to handle the regauge job in-house.

The dimensions at the bottom of the end supplemental drawings show the gauge-critical truck dimensions. The distance from the center of the truck to the flange is half the locomotive gauge. The distance to the hub locates the back of the bearing box, and the center of the crank is also the center of the line shaft bearing. The early prints show the flange and hub dimensions for the right and left side of the truck, but because the left side always matches the right side, the end supplement drawings only show one side.

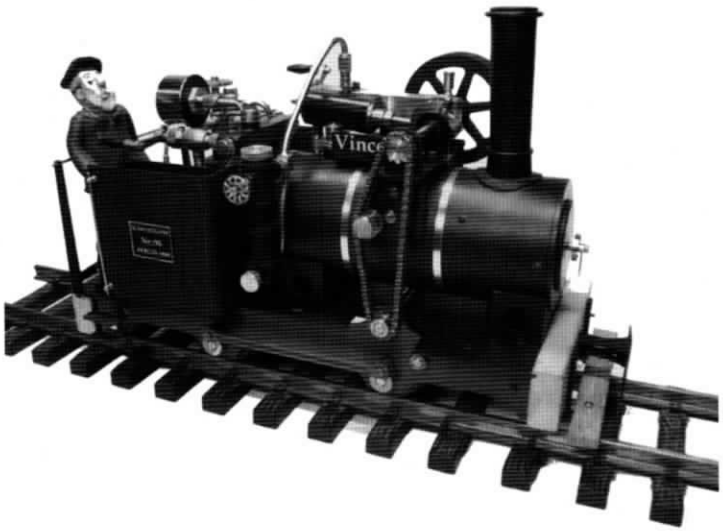
The next article in the series will expand the topic of engine mounts and cover Shay frame design.

Regner's VINCENT

by Norm Saley & Ron Brown

Technical Specifications:

L/B/H: 240/105/160mm
- single oscillating cylinder
- cylinder bore: 10mm
- stroke: 14mm
- boiler capacity: 102ml
- wheels electrically isolated
- track width: 30, 32, 45mm (adjustable)
- Figure NOT included
- weight: 2.2 kg
- includes boiler refeeding valve and bottle



Right on the heels of the very popular and successful WILLI and KONRAD, Regner has come up with another winner in their ***Easy Line*** of RTR steam locomotives.

VINCENT utilizes the same chassis as the two previous locos, but above the frame it's quite different. The single oscillating cylinder is mounted atop the boiler, in a design very common to traction engines but not to locomotives.

One of the most noticeable and appealing things about VINCENT is the chain drive, which connects the output shaft on the engine to a jackshaft on the chassis. Power is taken from the jackshaft via gears to the front axle, and then via side rod to the rear axle.

The loco comes ready to run right out of the box, and, like WILLI and KONRAD, is perfect for someone just trying steam power for the first time. Operating instructions are clear and simple, and success is guaranteed from the first time you fill the boiler, gas tank, lubricator and light the burner.

The cab controls include burner gas valve and throttle. The reverser is located on the steam motor assembly on top of the boiler. A feature we are enthusiastic about is the control valve on the displacement lubricator. The lubricator is also fitted with an easily accessible drain screw at the bottom.

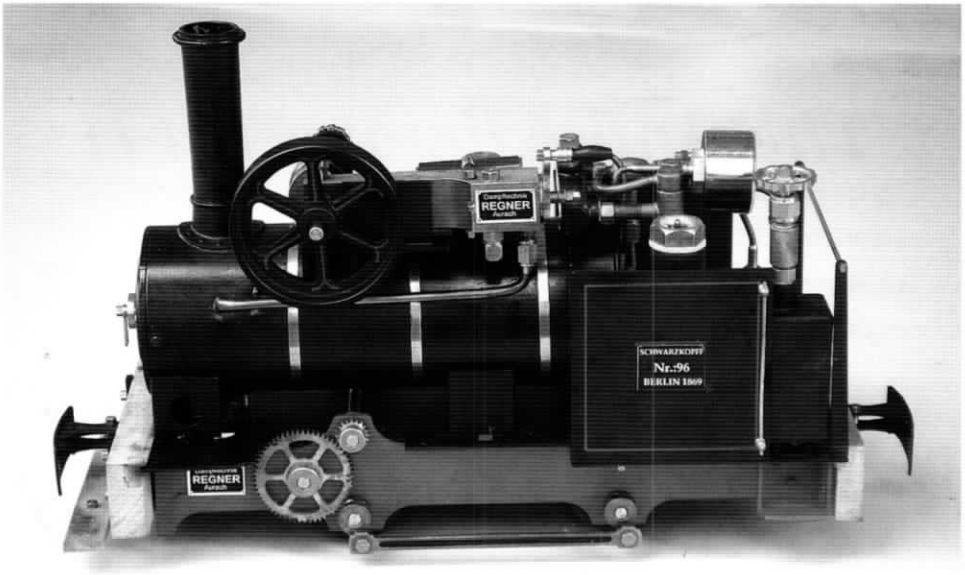
The valve wheels are elegantly done in cast brass. This not only looks good, but helps to keep them a bit cooler to the touch.

The engine is very well built and with reasonable care and maintenance should easily last a lifetime.

VINCENT lights up easily and consistently. The burner is nearly silent when turned down for running. Duration of the runs improved as VINCENT was run in, reaching approximately 25-30 minutes after the first couple of hours.

Like WILLI and KONRAD, pulling power is surprising for a small single cylinder. VINCENT will easily pull several large wagons, displaying a very nice plume as he marches along the track.

Ken Johnson at The Train Department, Regner distributor for the USA, tells us that *"Mr. Regner se-*



Flywheel side of VINCENT. Jackshaft and idler gears are visible here.
photo by Marie Brown

lected the prototype, designed and built the Vincent himself. An unusual model with genuine chain drive, Vincent had prototypes in England and Germany which provided inspiration for the model. The company Schwartzkopff built a chain drive industrial locomotive with the serial number 96 in the year 1869. The company Aveling & Porter from Smelling Ester England built three steam engines in 1917, one with the name "Sir Vincent" and the number 8800. With Vincent the cylinder is installed on top of the boiler just as the prototypes and propels the locomotive with the help of a chain."

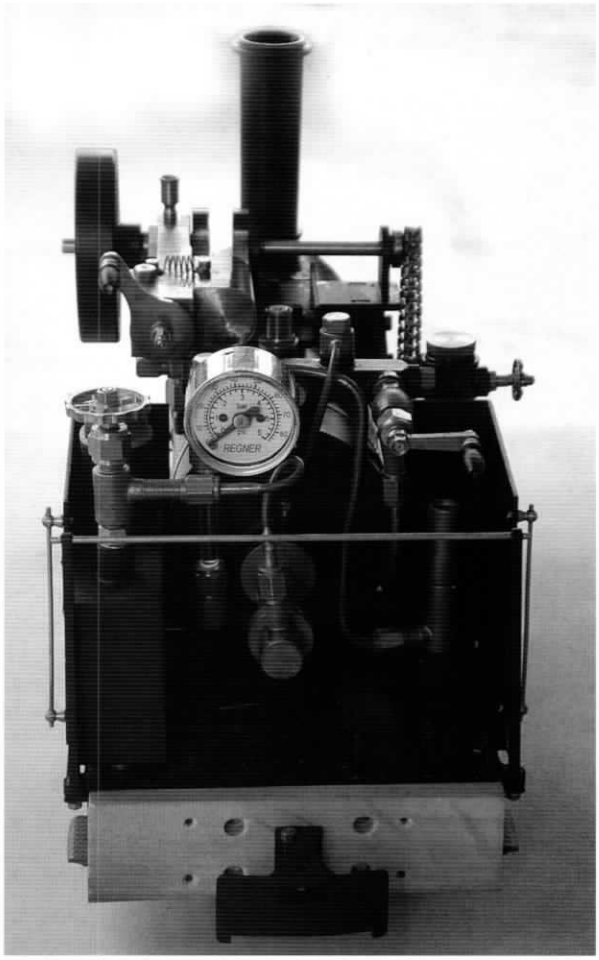
We found VINCENT to be a delightful little locomotive and recommend it highly.

Available from: The Train Department, 512 Summers Drive, Norfolk VA , 23509 USA

PHONE/FAX: 757-855-6364

ALTERNATE PHONE: 757-855-6698

EMAIL: team-regner@traindept.com



Driver's view of VINCENT. The gas control is on the left front, pressure gauge near center, and the throttle is on the right. You can see the reverser between the pressure gauge and the flywheel. **photo by Marie Brown**

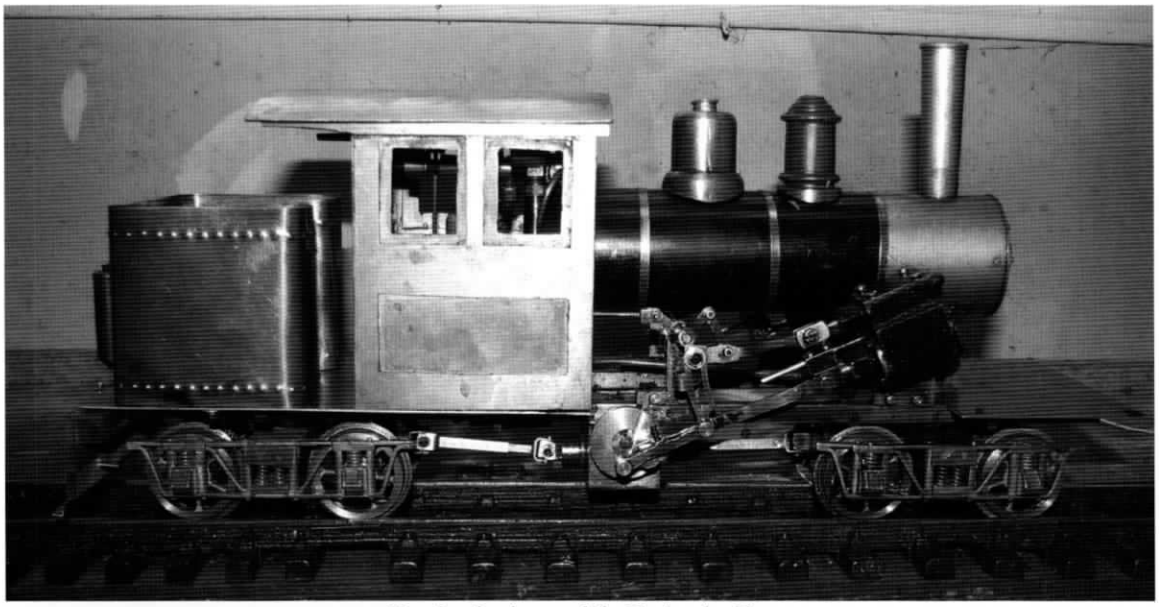
The Anti-Climax Part II

by Les Knoll

A Tale of Two Boilers and the Americanization of Lady Anne

In Part I described some history of the prototype Climax locomotive and my initial attempts to model one using Ruby engine components. I had made a switchover to Roundhouse engine components and at the time was planning on a scratchbuilt 'tee' boiler similar to the one on my scratchbuilt Shay. Part II describes still more design changes, this time mostly with the boiler.

After the Roundhouse engine assembly was installed on the locomotive's frame, I timed the engine using a fixture to position the return crank at 90 degrees to the main crank. Other valve timing adjustments were made according to Roundhouse instructions for Walschaerts valve gear. One modification to the Roundhouse design of valve gear was putting the reversing lever on the right side of the locomotive as is American practice.



Early design with Ruby boiler.

Test runs on air were very successful. The chassis would propel itself with less than 20 psi of air to the engine, and the chassis ran equally well forward and reverse.

I started doing steam tests on the Roundhouse powered chassis with a Ruby boiler. The relatively small diameter Ruby boiler was looking pretty good on this locomotive. I had even done CAD layouts using the Ruby boiler, so it had been under consideration for a while. I had recently changed employers, and my new employer had no machine shop. I no longer had facilities to make the parts necessary for the scratchbuilt boiler I originally planned. The second generation of Climax now consisted of DJB trucks and gears, a Roundhouse based engine assembly and a Ruby boiler. This assemblage of model steam engine parts finally looked like an actual Climax geared locomotive.

Although the new engine assembly ran well, It took everything that little Ruby boiler had to propel that locomotive and pull a car or two. Running on the test track in my garage I could get a couple of round trips around the garage floor and on the outdoor track. I could not get all the way around the yard without the need to add water. No matter how heavily I fired the boiler, I could only raise a maximum of 20 psi steam during operation.

I took the Climax to the Midwest Steamup in St. Louis in 2005. It put in a questionable performance pushing a single car around one of the smaller steaming tracks. It showed that it could run, but left a lot to be desired.

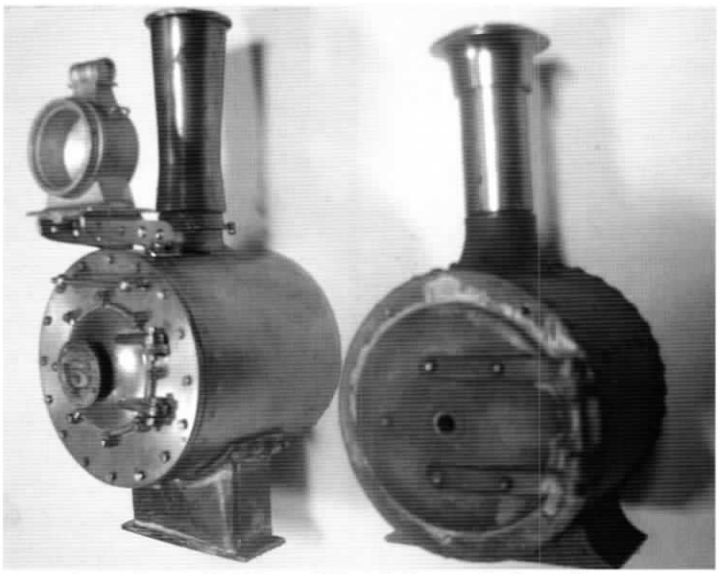
After the lackluster performance by the locomotive with the Ruby boiler, I set the project aside for some time. I had more or less figured out by watching the pressure gauge that the Ruby boiler was simply not keeping up with the demands being made by the Roundhouse cylin-

ders. Ruby cylinders are 10mm (.393") nominal bore and Roundhouse cylinders have a 5/8" (.625") bore. The Climax has a 3:1 gear ratio. If you do all the math, you will see that the Roundhouse cylinders in a Climax locomotive basically consume 7-8 times the steam by volume than Ruby cylinders do when in a rod engine.

There are a lot more factors to be taken into account, but this initial calculation plus the sagging needle on my pressure gauge told me I needed more steam. The Climax chassis ran quite well on air, so there was apparently nothing basically wrong with it. If enough steam could be raised, there was hope for this locomotive yet.

I unfortunately could not revert back to my plans of a scratchbuilt boiler since I no longer had the facilities to build it. I had to either acquire machine shop facilities quickly or use a ready-made boiler. The boilers available from Roundhouse looked like they would fit the bill pretty well.

Not only were Roundhouse boilers available, but they were matched for the engine components I was now using. Since this is a geared locomotive with an overall ratio of 3:1, the boiler would just think it was supplying steam to an engine that was running fast all the time. I was put 'over the edge' in my decision to try a Roundhouse boiler after a conversation with Norm Saley about the project. He agreed with me that I was simply not getting enough steam to the engine, and suggested I try using a boiler for a Roundhouse Lady Anne. The Lady Anne boiler is a bit larger in diameter than the Ruby, and a bit longer. I got the specifications for the boiler and laid it out on my existing chassis using CAD. The result was a slightly more stocky looking locomotive that required a 1/2" chassis elongation on the front end. I utilized all the proportion tricks I had learned from designing my five previous steamers to try and retain the narrow gauge flavor of the locomotive while adding this larger boiler



American (left) and British smokebox fronts.

Note that the boilers for the Roundhouse Lady Anne and Billy are the same length and diameter, but the placement of fittings on top of the Lady Anne boiler makes it easier to Americanize with dome placement and other boiler details.

I was pleased with the aesthetic results. A plus to this larger boiler is that now the cylinders don't look oversized. After seeing how this 'third generation' Climax would look, I ordered a complete Roundhouse Lady Anne boiler kit from Sulphur Springs.

If you do the math cost-wise on this, it is not a bad deal, even for the scratchbuilder. The cost of the gauge, fittings, gas tank, gas valve, burner, and plumbing, things a scratchbuilder would buy anyway, amounts to over 60% of the purchase price. Additionally, a scratchbuilder would still have to pay for materials to build the boiler shell itself. What you get for your money is all the components you would buy anyway, and in addition, a beautifully made, efficiently firing boiler with all matched components, ready to steam.

The initial trial of the new boiler was a cobbled-up affair. The Ruby boiler, lubricator and gas tank were removed. All the Roundhouse components were mounted on the chassis in the approximate position they would eventually occupy. Care was taken not to exceed the envelope of the existing Climax cab. The plumbing would have been far easier if the British convention of engineer and reversing gear on the left was followed. A Climax is a Yankee locomotive, so that ain't gonna happen. Even the pressure gauge was moved to the right, visible from the cab window.

I wanted to utilize the superheating feature of the Lady Anne boiler, and this required some additional engineering. The photo of the plumbing in Part I showed how this was done. All this had to be worked out before even a trial run could be accomplished. For the time being, the Roundhouse smokebox with its thoroughly British look was used just to get the locomotive in steam. If a Climax had ever been built in Great Britain, this is probably what it would have looked like.

The initial fire-up was on my bench track, running the locomotive back and forth as well as free running as on a test stand. Initial tests were very favorable. The most important thing I wanted to find out was: Would the boiler maintain pressure while supplying steam to the engine in normal operation? The answer was definitely YES. I could easily run the engine assembly on the bench at speeds as fast as I wanted to operate and still keep the safety popping.

The track test came soon after. With an oval set up in my garage, I coupled a train of large freight cars typical of what the locomotive would be handling, and fired up. After the usual initial cylinder clearing, the locomotive sprang to life, easily pulling the load while maintaining

40 psi. and popping safety. After over two years of experimentation, I finally had a boiler and engine combination that worked well. My initial run was 20 minutes. With a Goodall valve and careful firing, that would increase.

The Roundhouse boiler is a great performer. With its thin copper walls and scientifically designed burner, it raises steam quickly and maintains full pressure under load. The Lady Anne boiler had no problem keeping up with the demands the Climax engine made on it. The entire package of firing system and boiler is very efficient. Everything works well together. The Climax chassis was not originally designed to accommodate a Lady Anne boiler, and the Lady Anne boiler was not intended to look like it belonged on a Yankee geared locomotive. Another reason I call it 'The Anti-Climax'. Still, everything ran together well. That makes up for a lot. Now I had to make this thing look like an American built Climax locomotive.

It's amazing just how many cosmetic and other related problems no longer seem difficult to solve after you finally get a running locomotive. The first thing that had to be done was modifying the front of the cab to fit the larger diameter Roundhouse boiler. The CAD drawing indicated that this conversion would look OK if the original height of the boiler was maintained. The width of the cutout in the cab would have to accommodate the larger boiler diameter. The boiler would then sit just a bit lower in the chassis. The only problem that presented was there would be interference with the weight shaft, the shaft that ties the reversing gear on the right and left sides together. Roundhouse had already solved that problem for me. They provide a weight shaft that is bowed in the middle to clear the lower slung boilers in their models. I had kept several of these from previous modeling projects, and found that the Roundhouse weight shaft provided exactly the clearance I needed. Everything on this Roundhouse boiler project was going right.

The actual mounting of the boiler was a more involved process than if I were simply building a Lady Anne. The boiler on my Climax sits about 1/2" higher off the frame than it does on a Roundhouse rod locomotive, and a spacer for the rear boiler mount was necessary. I retained the Roundhouse boiler mounting method with a boiler mount in the rear and the front of the boiler inserted into the rear of the smokebox. The smokebox also had to sit higher off the chassis. The Lady Anne boiler is provided with a wrapper. I had never built a locomotive using a boiler wrapper before, and it sure beats drilling into the actual boiler shell for small details such as handrail stanchions. Very handy.

This next section will prove helpful not only to potential builders of a Climax, but to anyone wanting to Americanize Roundhouse products. It goes far beyond the adding of a stack or eliminating the round windows in the cabs, and the results are well worth the effort.

The Lady Anne boiler presented several challenges in the conversion to a convincing American prototype. The most obvious of these is the very British looking smokebox assembly. The proportions, stack and front are all dead giveaways that this is pure Britannia. Perfectly good if you are modeling British prototype, but this prototype was built in Corry, Pennsylvania, USA. To remedy this, a completely new smokebox was constructed. The basis of this is 2" copper tube used in the plumbing trade for water piping. The wall is thick, about .090", and it is sized by ID rather than OD, so the 2" OD Roundhouse boiler fits in it perfectly. The bottom of the smokebox had to be cut out to accommodate the superheater pipe just as is done on the Roundhouse smokebox. I silver soldered a piece of 1/4" square brass across the front of the tubing so that the smokebox front could be screwed to the smokebox by means of a 2-56 screw silver soldered to the back of a brass number plate. (Trackside Details #TD-72).

The smokebox front took more work than the rest of the smokebox combined. The finished diameter of the front was scribed onto a .100" brass plate. The compass used in this process automatically marks the center, so using this same center, a second circle was scribed corresponding to a size of brass tubing I had on hand, about 3/8". Using a Sabre saw with a blade for metal, the disk diameter was rough cut out of the brass plate. A 3/8" brass tube was soldered onto the plate using the 3/8" scribe previously made as a guide. This was positioned as closely as possible to the 3/8" diameter scribed circle. The tube was then chucked into my drill press, and a coarse file applied to the edge of the plate with the drill press running. This in effect acts as a lathe to 'machine' the edge of the plate round.

Applying progressively finer grades of sandpaper to the bottom side will polish this surface and give the appearance of a part turned in a lathe. If a mark is made on the bottom side while the plate is rotating, an accurate center can be located on this side. The brass tube was unsoldered and the remaining solder cleaned off on the backside of the disc. This gave me a disk for a smokebox front cut to a reasonable degree of precision, no lathe required. Note that I used the exact same method when I had a lathe at my disposal, except the lathe was used to turn the disc instead of the drill press, and a lathe cutting tool was used instead of the coarse file. It works either way.

To this 'blank' disk I added Trackside Details smokebox front (#TD185), sixteen 00-90 hex head bolts to simulate rivets, and a grab iron consisting of 1/16" brass rod passing through the two 8BA threaded stanchions provided by Roundhouse for their smokebox. The drilling pattern for these parts was first laid out on CAD, plotted on Avery label making paper, and stuck on the smokebox front. Hole locations were center drilled using the printed label as a guide. Avery makes a label paper for a full 8 1/2" x 11" label, and this can prove invaluable for accurately laying out parts on flat or even round surfaces. Just make sure that with whatever CAD software you use that you specify that the plot be made 1:1 size. Most computer

printers today can plot this out accurately enough to use for laying out cutting and drilling patterns. To remove the label after use, rub it with a rag soaked in mineral spirits or paint remover and peel the label off. Do this in a well ventilated area, do not inhale the fumes, and keep away from all open flame.

Using the smokebox center hole as a guide, I located the mounting hole in the brass crosspiece on the smokebox. This can be done easily by chucking the smokebox in a lathe, but remember, I had no machine tools available. I used a 2-56 screw for the smokebox mount as mentioned earlier, but any small thread size will do. The smokebox was sheathed in .015" brass into which rivets were embossed.. A thinner brass sheet may give crisper rivets, but the sheet will easily deform from the heat generated in the smokebox or by any torch soldering operations. Rivets were embossed into the brass sheet backed by a piece of soft wood using a spring loaded center punch. This type of punch has adjustable intensity and once the correct intensity is found for the size rivet and thickness of material you are using, it will be consistent throughout the rivet making process. Do trial runs on a scrap piece of the same thickness brass before the 'production run. Since my smokebox was exactly 2" long, the .015" x 2" x 10" K & S brass sheet was a perfect match.

I completed the smokebox by adding Trackside Details smokestack base (#TD-168), high-temp (650 degree) soldered to the brass wrapper (that's why you need the .015" sheet). I attached a #TD-66 smokestack to the base using JB Weld. Also added were #TD-106 headlight bracket and #TD-153X arc headlight. The headlight and bracket were screwed on using 'Hob-bits' fasteners available at most good hobby shops.

The cradle portion of the smokebox pedestal was made using a piece of 2" copper tubing slightly unwrapped to fit over the outside diameter of the smokebox. The pedestal pattern was worked out on a CAD drawing, cut from sheet copper and silver soldered to the cradle. Notice that I use all high temperature solders in smokebox construction. In a smokebox there is no water to keep the temperature down, and temperatures are reached that will melt soft solders. For small silver soldering jobs like this, a Bernz-o-matic a torch available at most local hardware stores using Mapp gas works well.

The length of the smokebox is 2", slightly longer than the original Roundhouse unit. I shortened the boiler wrapper in the front by 3/8" so as not to make the boiler appear so long. This cut was not as perfect as the shearing operation Roundhouse used, so a boiler band was placed over this joint to hide the evidence.

The steam dome, a Trackside Details #TD-17, was positioned over the water filler on the Lady Anne boiler. Originally the filler cap was a very large diameter, and this little dome would not fit over it. I found that the cap from a Roundhouse lubricator could be screwed into the water filler opening and its outside diameter was small enough to clear a hole that can be Dremel'ed into the bottom of the Trackside Details steam dome.

I wanted to put the safety valve in this location. That way the steam escaping from the 'real' safety valve could be vented out through the top of the steam dome through scale sized simulated safety valves. The only problem was that the 5/16"-32 safety valve thread is smaller than the 3/8"-24 filler cap thread.

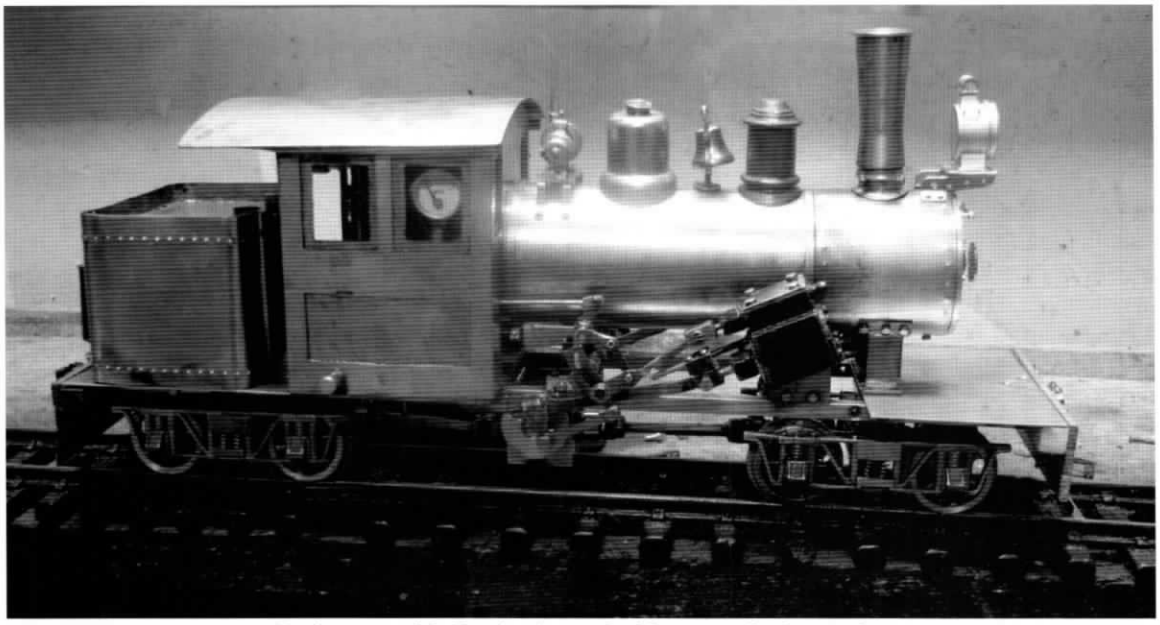
To solve the problem, I took a spare Roundhouse safety valve, removed its internal parts and gasket, and using a Dremel cutoff tool, carefully cut the threaded portion off the bottom of the valve. The safety valve interior seat was still intact. I then removed the gasket from a spare Roundhouse lubricator filler cap, cut down the height of the top portion on the cap so that there was no screwdriver slot left on it. I drilled through the center of the cap with a drill slightly larger than the hole in the center of the safety valve. I then soldered the top of the safety valve to the bottom of the lubricator cap. Now I had a safety that would fit in the Lady Anne filler opening and vent through simulated 'safety valves' I fabricated in the top of the steam dome.

I ordered a Goodall valve from Sulphur Springs with threads to match a Roundhouse safety valve (5/16"-32) and placed that at the rear of the boiler where the safety valve originally was. This location is inside the cab on my model and the only drawback, if any, is that I have to lift the cab roof to add water. Not only did I have a nicely Americanized Lady Anne boiler, I had all the fittings right where I wanted them.

Rounding off the details to be placed on the boiler were a DJB sand dome, purchased when I obtained the trucks and gearing, a Trackside Details generator (#TD-170), bell (TD-181) and check valves (TD-84) Note that Trackside Details does have several generator brackets available, but I chose to make mine out of brass stock. The #TD-84 check valves were drilled in their side to accommodate feedwater piping. This looked more like the arrangement that was on the boilers of the smaller Climaxes.

The placement of the generator, steam dome, bell and sand dome was fairly common, judging from prototype photos. The location of the steam dome was dictated by the location of the filler plug on the Lady Anne boiler, and the other components were arranged around that. The generator, bell mount and sand dome were all soft soldered to the boiler wrapper. There has been no problem with excess heat melting or weakening the solder joints. Water in the boiler keeps the temperature down and the jacket acts as an insulator. Even if one of these details did come unsoldered, thanks to the boiler wrapper, there would be no steam leaks.

The application of the details described above and the construction of an American prototype smoke box could go a long way to Americanizing a Lady Anne, or even a Billy with a little different treatment. Of course,



In brass with Lady Anne boiler, ready for paint.

making an American prototype cab helps, too. None of these techniques are limited to construction of a Climax, and could be used on any locomotive. I caught a straight-on look at my locomotive in steam while running in the garage a while ago and thought that this same American-ized boiler and cab combination with an inside frame rod engine mechanism would make a great looking 0-4-0 or 0-6-0 switcher, or perhaps a Mogul or even a 10 Wheeler. The addition of a matching tender would complete the image.

Part III will cover the painting, re-assembly and final debugging of the locomotive, with a lot of tips anyone building or repairing a locomotive can use to get it running well and keep it that way.

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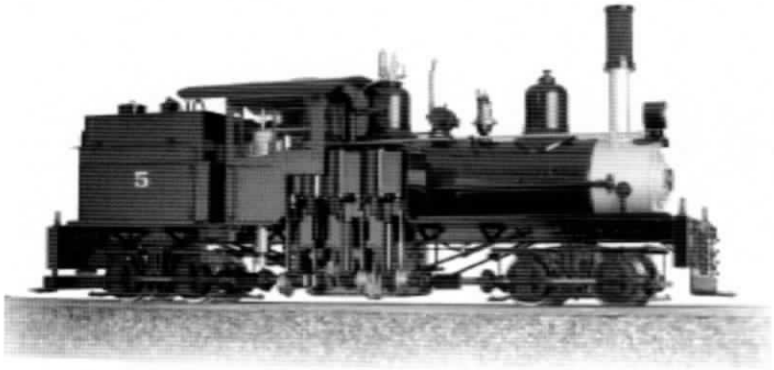

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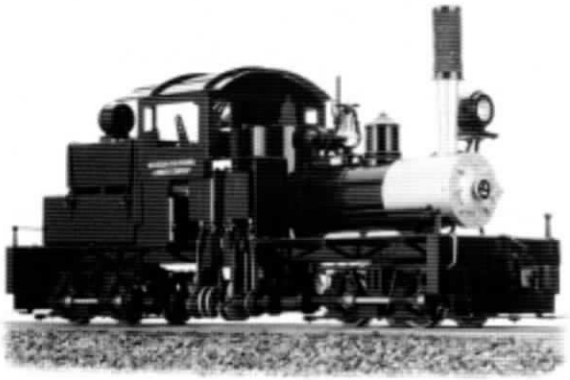

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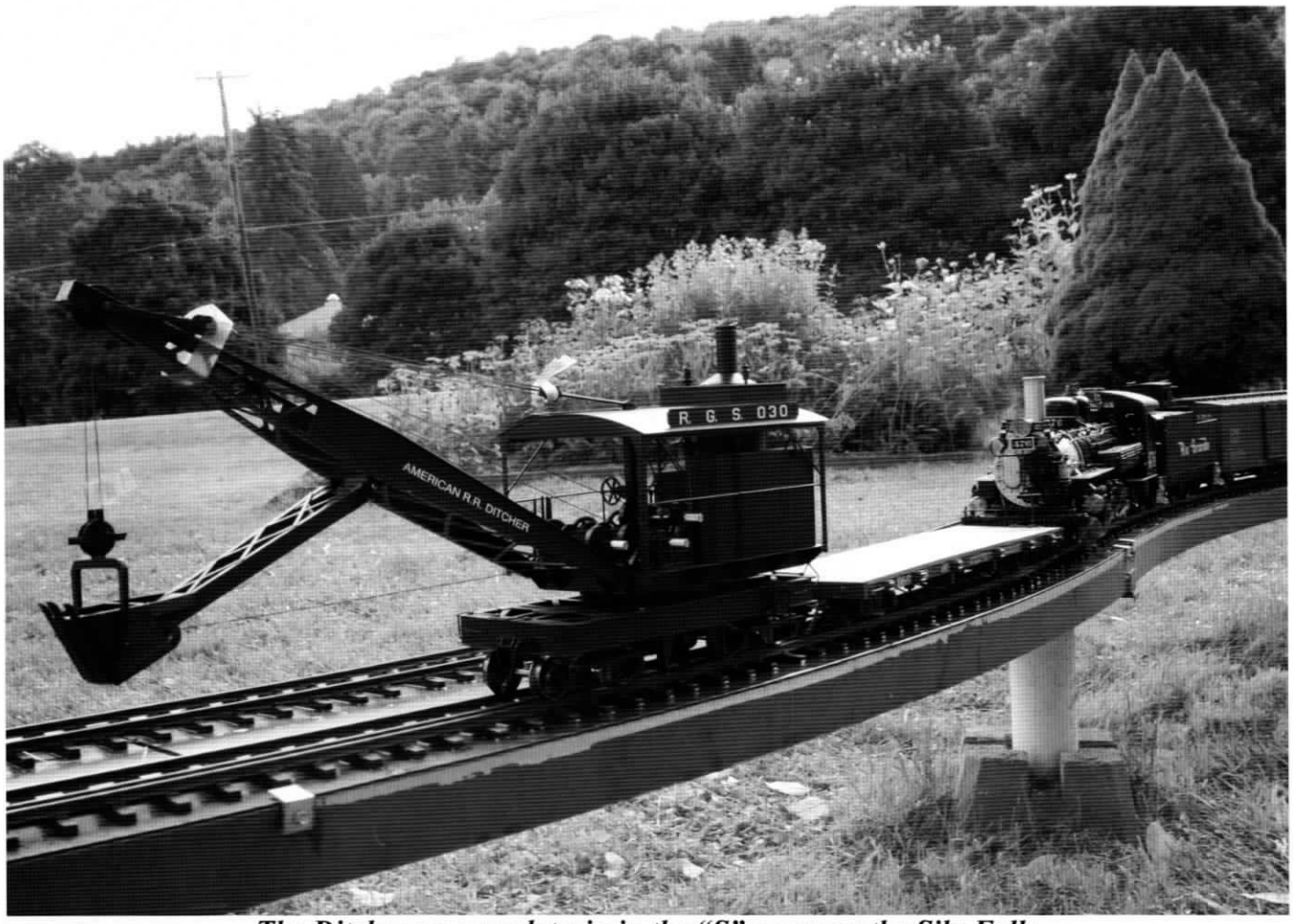
Product Review

American Hoist & Derrick Model J Ditcher

by Ron Brown
photos by Jason Kovac & Alan Redeker



The Ditcher on a work train in the "S" curve on the Silo Falls.
photo by Jason Kovac

The motto of The Car Works is, "Raising Quality Standards". Judging by what I've seen from them so far, that is an accurate statement.

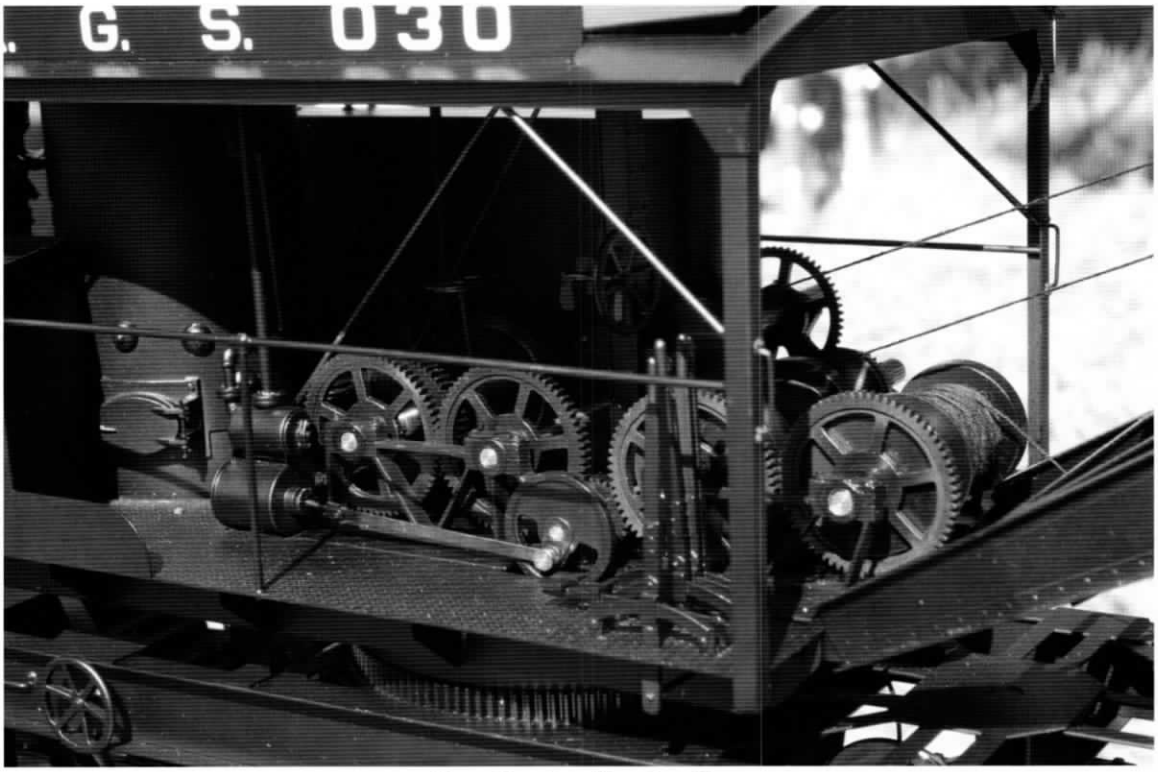
Stan Richmond of The Car Works brought some of his new items to our steamup in August. The subject of this brief review is his American Hoist and Derrick Model J Ditcher.

No, it's not steam powered. Other than that, this model couldn't be closer to perfect. It does have three electric motors, including one for travel down the rails, one to rotate the house and another to raise and lower the boom/dipper.

The detail is outstanding. Look at the closeup photo showing the gears and drums. Scale is 1:20.3. Material is brass. The paint job is immaculate, and there are 2 versions available. One lettered for the R.G.S., and another with no lettering but with an extra logging/crane boom.

Stan put on a demonstration, putting the Ditcher through its paces. This generated lots of interest, and I suspect that the limited run of 100 units won't last long. This is truly a beautiful model, worthy of museum quality status.

For more information or to place your order, contact The Car Works, PO Box 4254, Warren NJ 07059. E-mail: sdrinc@optonline.net



Details, details, details.
photo by Jason Kovac

Jason Kovac gets up close and personal with the ditcher.
photo by Alan Redeker

The Car Works

"Raising Quality Standards"

American Hoist and Derrick "Model J" Ditcher

• New •

1:20.3 Scale

Production Sample

2 Versions:

1– as shown in photo

2– same, except no lettering on roof boards and has extra logging/crane boom

Rail powered, 3 motors 1 for travel, 1 to rotate the house, and 1 to raise and lower the boom/dipper.

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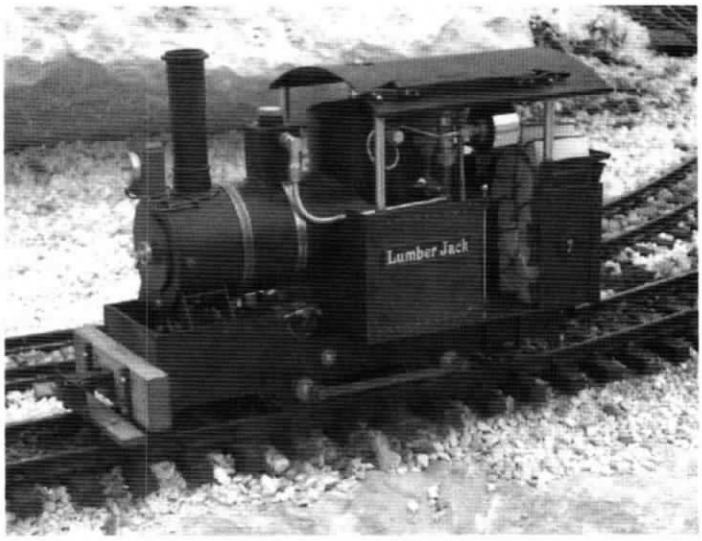

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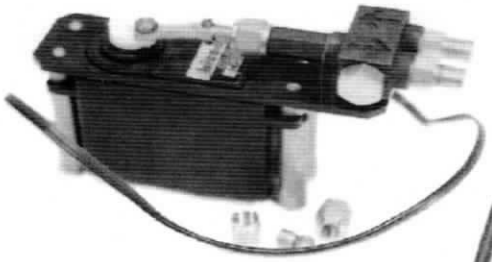

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FOR SALE: An unopened ACCUCRAFT GARRETT. I bought this at Diamondhead this year and decided that I have no shelf space to display it if I opened the carton. Price is $4525, and I suggest that you pick it up if you are anywhere on the Gulf Coast, or get it when you come to Diamondhead in January. Jerry Reshew, reshew_j@bellsouth.net

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Sept/Oct

Editor 10/1/07

OBITUARY

Mr. Ken'ichi Fujii , president and founder of Aster Company Inc. of Yokohama , Japan passed away August 10th 2007 after a long illness. Mr. Fujii was born in February of 1926. He studied science at the University of Kyoto and in 1957 became president of the Aster Cash Register Manufacturing Company. In 1975 his company started manufacturing gauge one live steam locomotives which quickly gained worldwide recognition . Renamed Aster Hobby Co. Inc. the company remains in family ownership under the leadership of his son Mr. Susumu Fujii.
Mr. Ken'ichi Fujii will always be remembered as a leading pioneer in the gauge one live steam hobby.

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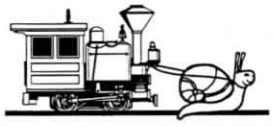

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