$2.75

Steam in the Garden

Magazine

Gather, friends, while we enquire,
after trains propelled by fire.....

Volume One Number Six April/May 1991

Lynton & Barnstaple Special pauses at Higher Buxton on Dave Pinniger's Ambledown Valley Railway

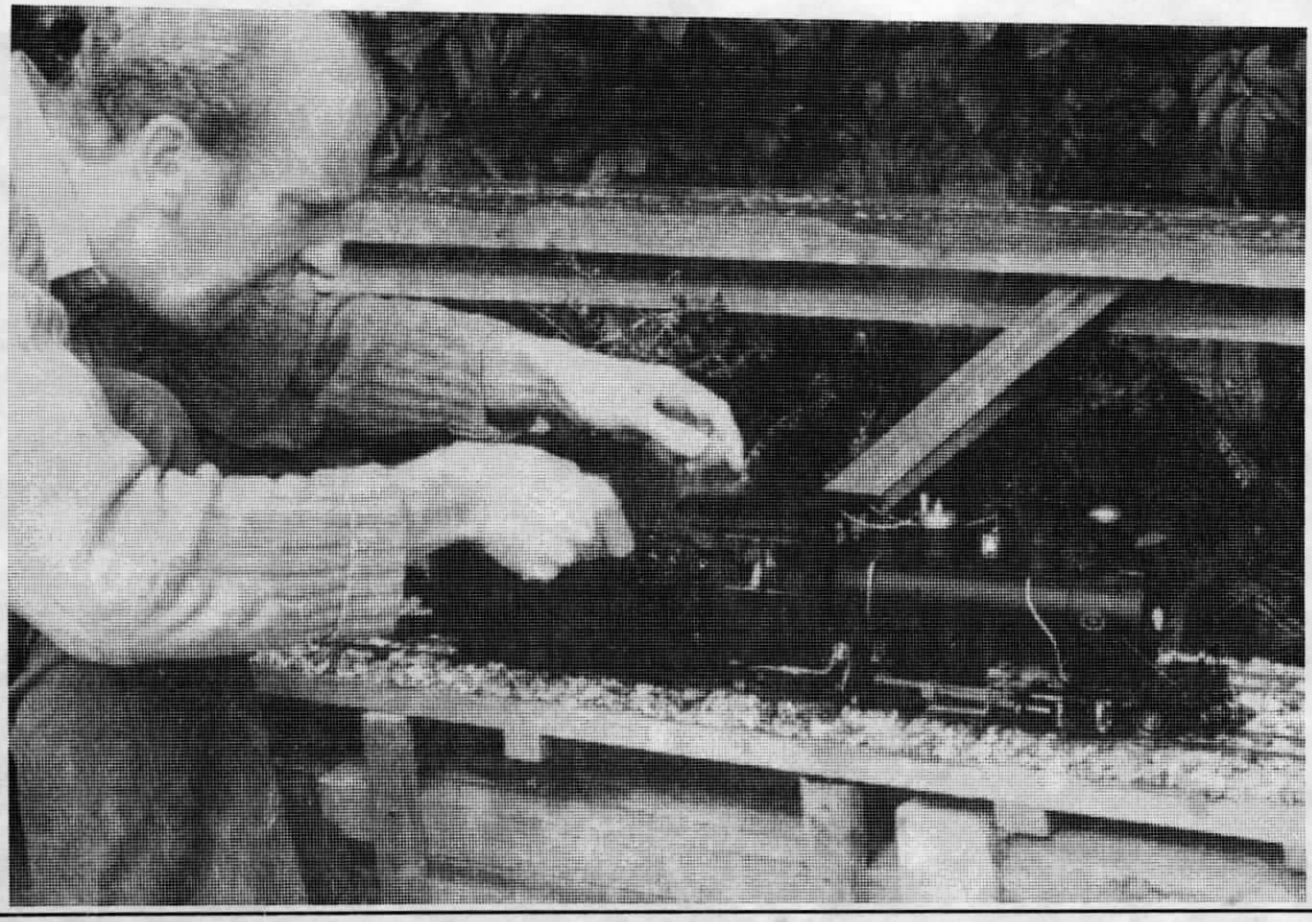
More Photo Coverage On The AVR Inside

Plus.....

Roundhouse Fowler Review

LGB Frank S. Review

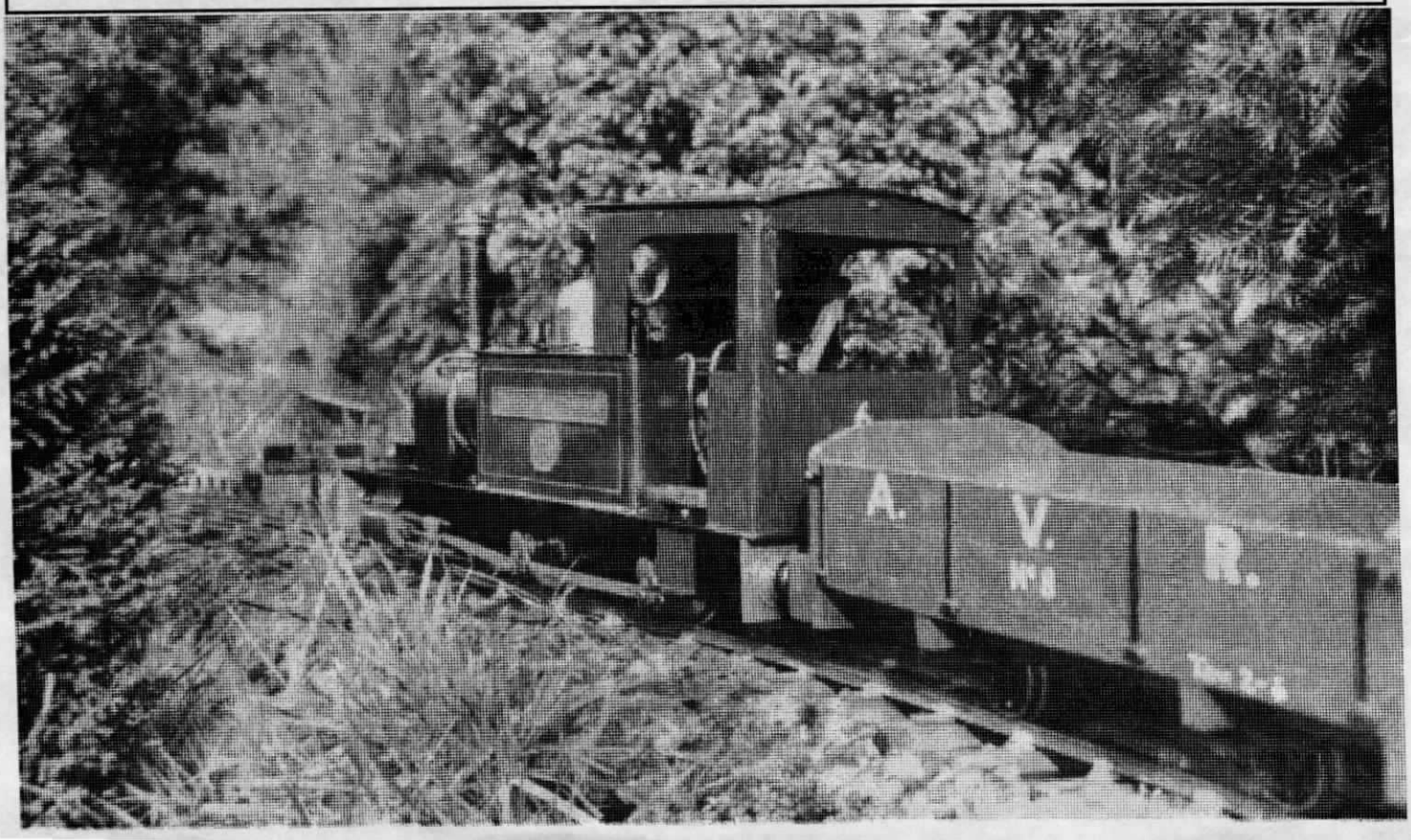
News, Opinion and Commentary on the Live Steam Scene



Top Photo: Mike Gaskin with ***WISSIE***, a coal-fired Baldwin built by Mike for the Burnham and Berkshire Railroad. This photo shows the engine on its demonstrator run before being collected and taken back to Cookham.

Bottom Photo: Vintage Archangel Rheidol ***THOMAS THE RHYMER*** leaving Bishops Amble and approaching Binns Road on Dave Pinniger's Ambledown Valley Railway. This engine was recently outshopped and fitted with a cut-down meths tank and a new cab.

These Photos and Cover Photo by David Pinniger



FOR THE WAVERER: Think! It is high summer and you are reclining at leisure in your deckchair with a cool drink, at peace with the world. The birds sing, bees hum and grasshoppers chirrup. Bourne on the breeze comes a faint rumbling that grows steadily with the passage of a train through the rockery and along the embankment. As the locomotive passes, reflected momentarily in the rock pool, a damp wisp of steam carries the seductive odours of hot metal and steam oil to your nostrils....(Sigh)....

The above was found in an old British magazine and sent in by Tony Ferraro of Little Railways. Kind of makes you want to get out in the garden and light up a steam engine, doesn't it?

It seemed like an appropriate bit of prose to open this introduction to issue #6, which signals the end of our first full year of publication.

Our goal when we first started SitG a year ago was to spread the word about the delights of small-scale live steam, to help newcomers with information, sources and advice, and provide the veteran live steam enthusiast with information and a forum to exchange ideas.

We hope that we've achieved some of these things with these first 6 issues - and we want to continue to do all of these and more.

We're pleased with the response we've had from our readers - as far as we know, we haven't made anyone mad at us yet - and we've certainly enjoyed the new friendships that have come about as a result of our association through this publication.

You'll find a new photo section with large format photos in this issue - because this is what you told us you wanted. We've finally gotten around to the review of the Roundhouse Fowler that we've been promising for too long, and we've included a review of LGB's FRANK S. for good measure.

Along with the Fowler review, this issue contains the first of a series of articles by Stumpy Stone on **Americanizing the Fowler.**

If you're a regular reader of SitG, you've certainly noticed that each issue has been a bit different than the last. We've been seeking a format - and an identity - that we can be comfortable with, and hopefully with this issue we've found it. This doesn't mean that we won't be making any changes in future issues - but we don't expect to be making as many of them as in the previous 5 issues.

We've received letters and phone calls from many of you, asking about back issues. Well, we've finally done something about that and are pleased to announce our first **Special Edition**.

We've compiled the first three issues into a single volume with all new typesetting, photos and drawings. To make this **Special Edition** even more interesting, we've added lots of brand new photos and Rick Drescher's great **Adventures on the Castle Pacific** cartoons.

This is how we'll handle all back issues from now on - with a Special Edition twice a year, Spring and Fall, each containing three back issues plus lots of new photos, drawings and cartoons. Look for our **First Special Edition offer** elsewhere in this issue.

One change that we announce with regret is that Larry Lindsay will be leaving us as a regular contributor and columnist after this issue. I'm sure I can speak for all of us when I say that we appreciate his generosity in sharing with us his wisdom, experience and skill with live steam locomotives in five of our first six issues. THANKS LARRY!

And thanks, too, to all of our regular columnists and contributors - and to those of you, our readers, that have taken the time to send in articles, photos, questions or letters of support and encouragement.

We're looking forward to the next six issues - and beyond - with even more excitement and enthusiasm than when we first started this project a year or so ago, so stick with us.....there's lots more to come.

Happy Steaming!

Ron

P.S. Almost forgot to thank Bruce Bates for the neat little SFSR logo he sent in - Thanks, Bruce!

Steam in the Garden
Magazine
Volume One Number 6

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Marc Horovitz..... Colorado
Peter Jones..... Wales
Fred Kuehl ..... Pennsylvania
Larry Lindsay..... Colorado
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WHAT'S NEW?

We just received Issue #2 of ***Modelling the Minimum Gauge***, a new newsletter for those interested in 1 1/2" scale on gauge 1 track (representing the 15" gauge Sir Arthur Heywood estate railways). It's available from **Eric Lloyd, 24 Bury St., Wrexham, Clwyd, LL13 8NS, United Kingdom.** Please include a couple of IRC's (International Reply Coupons) with your inquiry.

Decker's Trains, Rt. 1, Box 102-E, Hot Springs SD 57747 (605) 745-5487 is offering the ***Heywood Newsletter***, which is devoted to the same scale and gauge mentioned above. In addition to the newsletter, Decker's Trains is offering kits and drawings for Heywood rolling stock and locos. Mike Decker writes to say that he is currently working on a batch of freelance battery locos in the Heywood style, with a Simplex loco next on the drawing board. He also is experimenting with an OSMOTOR-powered version of ***EFFIE***, which should be of interest to live steam enthusiasts. To get the Heywood Newsletter, send $2.00 for 4 issues to the address above.

According to a letter received from Jack Mc Kie, the **Finger Lakes Live Steamers** (in Upstate New York) would like all small-scale live steam enthusiasts in the area to know that they welcome them to join the club and invite them build a track if they wish. There is plenty of space on the grounds for a gauge 1 and/or gauge 0 track. Jack points out that one advantage of a club track would be space available for realistic large radius curves, which is seldom available in our personal garden railroads. Modelers wishing to build small-scale live steam locos for the first time would find the club a good source of information, advice, etc. Anyone in the Syracuse/Rochester area that's interested, please contact one of the following:
Ed Mc Connell, Finger Lakes Live Steamers Inc. ,28 Belinda Crescent Dr., Fairport, NY 14450 (716) 223-2514
Jack Mc Kie, 19 Blandford Lane Fairport, NY 14450 (716) 248-9476

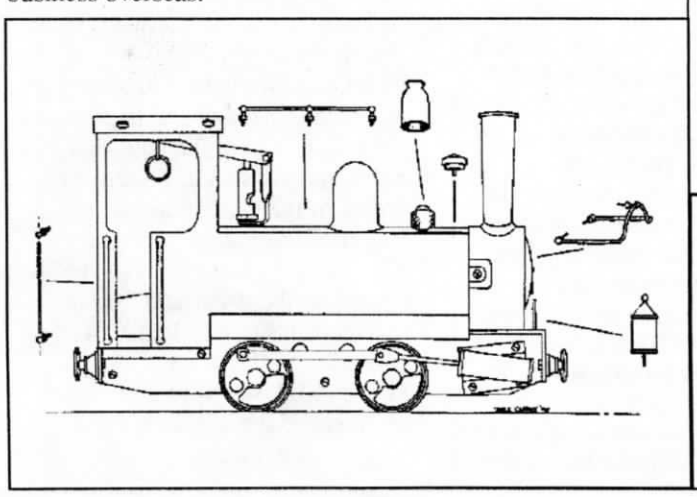
Rose Mary.

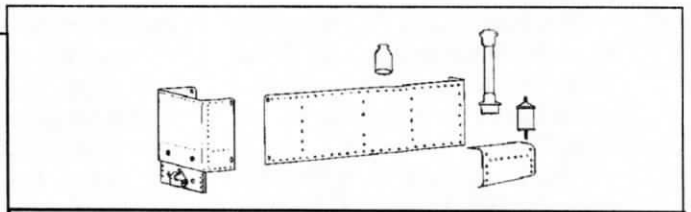
MAMOD COMPANY SOLD. The Mamod company in England has been sold again, and a rumor was circulating to the effect that the Mamod loco and spare parts for same were no longer available. However, the latest word is that the new owners have responded to an inquiry (by Marc Horovitz) about their status with a ***"YES, MAMOD IS VERY MUCH STILL IN BUSINESS."*** Apparently they are in the process of relocating the factory, and Marc tells us that they have promised to send more info later.

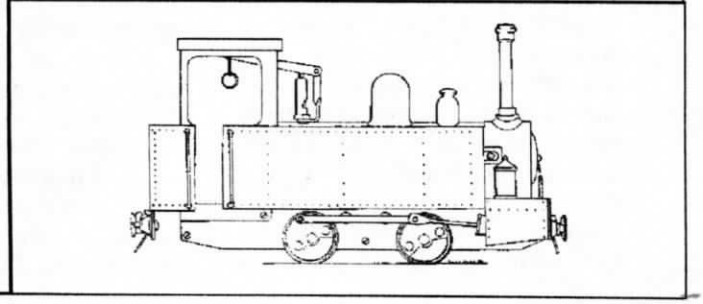
GARY RAYMOND, P.O. Box 1722, Thousand Oaks CA 91360 - phone (805) 492-5858 has available very high quality wheelsets in three different sizes to suit all or most of the scales currently running in the garden. Gary has been offering wheelsets made of nickel plated brass, and has now added steel wheelsets to his line for only $1.49 per axle. I have quite a few of Gary's wheelsets running on locos and rolling stock and am very impressed with their quality. It's nice to hear the sound of metal wheels on metal rails - and the clackety - clack as they pass over rail joints.

SALEM STEAM MODELS, Brynglas, Salem, Llandeilo, Dyfed SA19 7HD, United Kingdom, has sent samples of their impressive line of **Mamod Improvement Parts**. The line includes very high quality items such as a brass safety valve cover, brass or alloy tank filler caps, brass handbrake standard, replacement stack, handrail kits, rivet-detailed tank and cab overlays and coal bunker, front pony truck kit, cylinder covers, tender, Goodall improved safety valves and a new Goodall-designed alcohol burner with five (5) burners instead of the usual three. Another Mamod Improvement Part by Deryck Goodall is the boiler filler valve, which allows topping up the boiler with water while still under steam. This enables the loco to be kept in steam indefinitely. There's too much more to list here, so send for their catalog. By the way, they also offer a solid line of rolling stock kits and scratch-builders parts. All the samples we received are of excellent quality and quite reasonably priced.

A letter from **P. Ross Dwerryhouse,** one of the partners in Salem Steam Models, accompanied the samples. Mr. Dwerryhouse mentioned that if the U.S. market shows any interest, they would like to offer some detailing parts for the Mamod that would give it an **American Baldwin loco appearance.** How about it, readers? This sounds like just what many of us have been looking for - **a low-priced steam loco with American prototype appearance**! How about sitting down right now and writing to Mr. Dwerryhouse, expressing your support and enthusiasm for such a project? Ask for the Salem Steam Models catalog while you're at it, which they offer free of charge if you'll enclose a couple of dollars for postage or a couple of IRC's (International Reply Coupons - available at your post office). Tell Mr. Dwerryhouse that you read about it in SitG. One final note - Salem Steam Models will accept VISA or MASTERCHARGE, which avoids high bank charges for currency conversion and simplifies doing business overseas.







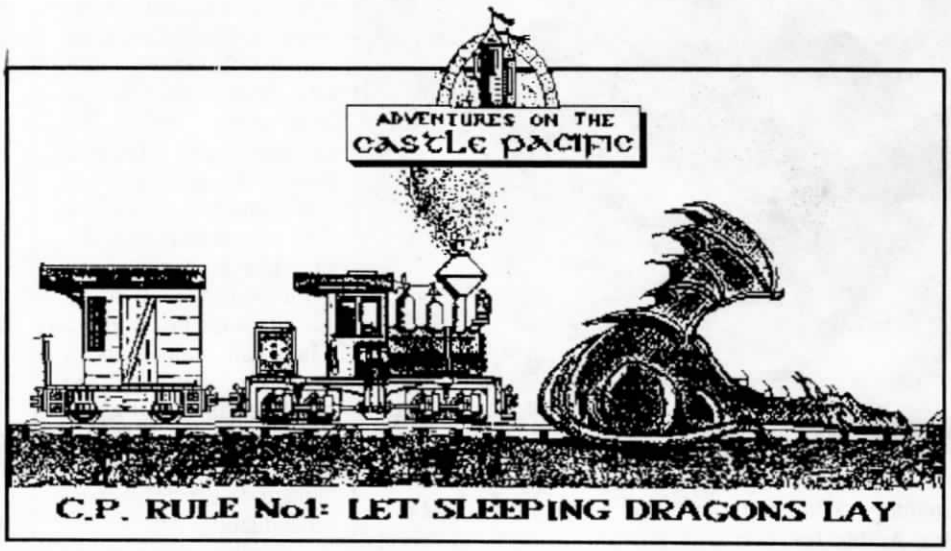
C. Michael Products, P.O. Box 311, Granby CT 06035 is selling track products in code 332 brass rail to match LGB track. The standard line consists of turnouts, crossovers, double crossovers, moveable point center frog double slip turnouts and wye turnouts. Turnout frog sizes range from #4 (45" radius) to #8 (180" radius) and are quite reasonably priced, beginning at $49.00. We received a sample of a #5 turnout kit and are quite impressed with the engineering and quality of workmanship in this product. The term "KIT" is actually somewhat misleading, as this turnout kit consists of a preassembled turnout completely built and ready to spike onto your ties. The turnouts are made of code 332 brass rail and are of very sturdy construction. The rail is held in gauge by heavy copper wire soldered across the rail base. Points are ground and pivoted and have a bridle bar attached and ready to hook up to your switch stand, ground throw or other actuating mechanism. The guard rails are pre-soldered to the stock rails and it would take only a short time to have this turnout in place and in operation on your railway. C. Michael Products also offers tracklaying templates covering a wide range of turnouts, including moveable point and stub turnouts for standard and narrow gauge in many point sizes, plus templates for many specialized track items such as single and double crossovers, double slip, three-way and curved turnouts and more. Rail sizes other than code 332 available. If you're using LGB track, you don't have to be stuck with the too-tight radius curves! And if you're laying your own track and don't look forward to building your own turnouts, these items are definitely worth a look. Send a SASE to the address above for a list of products and prices.

ASTER HOBBY USA, INC., P.O. Box 90643, Pasadena CA 91109-0643 has started shipping their C&S Mogul in gauge 1, 1:22.5 scale. Available in kit or built-up form, steam or electric, this loco will operate on curves as tight as LGB's #1600's, and we were told by Gary White at Aster Hobby USA that it is the easiest operating Aster loco that he's ever seen. Just add water, steam oil and butane fuel - light the burner, wait for steam to build and drive it away. This is, in my opinion, one of the most attractive, interesting and well-proportioned American narrow gauge locomotives ever built. Write for more information - and tell Gary that you read about it in SitG.

DORIAN NAKAMOTO, 6327 San Harco Circle, Buena Park CA 90620 (714) 821-4209 got tired of the drivers coming loose on his Mamod locomotives, so he is planning to produce high-quality replacement wheelsets for the Mamod. Factory quartered and assembled and made of mild steel, they are guaranteed to rust like prototype drivers! They are fully machined and the axles and crankpins are tightly press-fit so they won't spin off like the flared axles on factory Mamods. These drivers will look similar to factory issue, except that they will be more realistic in appearance and will have a scale wheel contour with tapered tread and a fillet between tread and flange for better negotiation of switches and curves. Installation instructions will be included. The axle and bushing dimensions will be the same as the original so the new wheelsets will just "pop in". Dorian would like to hear from anyone that might be interested in these quality replacements, and is particularly interested in selling them to dealers or anyone interested in quantities of 25 sets or more. Write to him at the address above and include a SASE for a reply - or just give him a call and tell him you're interested.

STANFORD UNIVERSITY PRESS, Stanford CA 94305 has published another fine volume by well-known railroad author George W. Hilton. ***American Narrow Gauge Railroads*** - 580 pages hardbound, $60.00 - contains information on every narrow gauge railroad that is known to have existed in the USA. Part I is chock-full of facts and photos - it contains 297 pages of fascinating narrow gauge history from ***The Origins of the Narrow Gauge Movement*** to ***The Decline of the Narrow Gauge***. Then in Part II the author moves on to examine individual railroads. This is presented in a state-by-state format, which I thought added a great deal of interest from a reader's point of view. From the Addison & Northern Pennsylvania RR to the Zanesville & Southwestern RR, this volume traces 356 American narrow gauge railroads from inception to either abandonment or conversion to standard gauge, and finally to the present state of the trackage. Included with the text are 56 maps and 382 photos and line drawings. It definitely deserves a place on the bookshelf of anyone interested in railroading, and is of particular interest to those of us that are narrow gauge fans.

Rick Drescher's.....



Rick Drescher ©1991

The Steamchest

by Marc Horovitz

Classic steamers - the de Winton

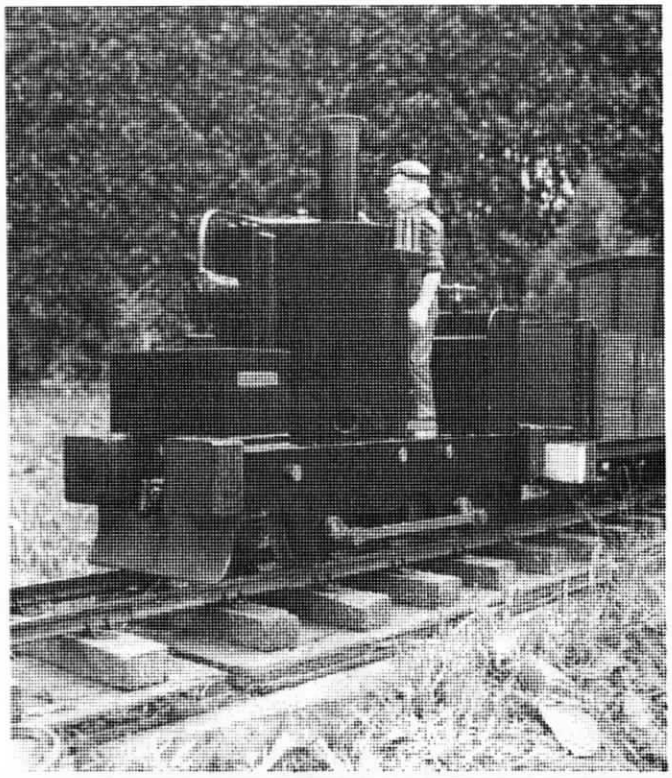
Around ten years ago I acquired a model of a de Winton locomotive. The prototype of this engine was used in Welsh quarries to haul slate. They were offered in a variety of different gauges, and proved very reliable in service.

The model was designed and built by a fellow called Jim Wild in Britain. It is a tiny 0 gauge engine built to 16mm scale. Only 2" wide x 6" long x 5 1/4" over the stack, this is one of the smallest live steamers I've seen. The design is simple and ingenious. The vertical boiler has a single flue and four air holes near the bottom. The meths burner consists of a single wick positioned immediately under the flue. Power is supplied by one single-acting Mamod cylinder, controlled by a rotary reversing valve that is actuated by an elegant little quadrant.

The piston drives a knurled turn-wheel attached to a shaft. At the other end of the shaft, concealed by the dummy water tank, is a large flywheel. A spring belt (Mamod again) from the primary shaft drives a secondary shaft on which is a pinion gear that engages a crown gear on the axle. All together the reduction is in the neighborhood of 7:1. Siderods connect the two axles in the usual manner to provide four-wheel drive. The crank pins are actually roll pins pressed into the cranks. Little retainers are pressed onto the pins to hold the side rods on -- an ingenious solution.

When steam is up, the turn-wheel must be flicked a number of times until the cylinder is warm enough to continue working on its own. It runs in either direction, depending on the setting of the reversing valve. The engine is painted black, with red siderods and reversing lever. Unfortunately, the paint reacts with meths and oil, and it has come off around the fuel tank and the motor. The red paint is not heat resistant, and it has darkened on the siderods.

I had never been able to get this engine to run properly, though I knew what its potential was from having seen Dave Pinniger's de Winton puff around his AVR with a respectable train. The engine was alternately a source of frustration and a shelf ornament for years.



Sedimentary Sand & Gravel Co. de Winton ***CYCLOPS*** passing Amble Junction with the work train from Woody End on Dave Pinniger's AVR.

Photo by Peter Dobson

Finally, one evening I was fooling around with it, trying to get it to go, when, for no good reason, I stuck a pricker down the exhaust pipe in the chimney. Immediately the engine responded. The exhaust note became sharper and the speed became much greater. The fire was drawn into the chimney as it never had been before, and things were looking pretty good. There had evidently been a piece of grit caught in the line that acted as an exhaust restrictor, preventing proper operation, and the pricker must have dislodged it.

I also decided to change the wick from asbestos to fiberglass, but performance again dropped to a disappointing level. I had carefully trimmed the wicks in the same manner that gave me good performance on other engines, but it did little for this one.

And then while I was working on the loco the spring belt broke. Enough! Back on the shelf for another year or two.

Recently I was offered another one of these engines. I thought, "If I buy another one, and it doesn't run either, then where will I be? But if it runs well, what will I do with the one I already have? I can't sell it to someone else if it doesn't go. And I really don't want two of these wee beasties -- one that works and one that doesn't." So I passed up the second engine and became determined to make the first one do what it was supposed to do.

I tore the thing to pieces and replaced the spring belt, which was no easy task. Once this was done, and I had made certain that it was otherwise mechanically sound, I replaced the wick again, this time making it long and stringy. When it was fired up, the engine actually showed signs of life. However, I could see that the fire was being starved in the center by the wick configuration. A little trimming here and there, and another firing or two, and the deed was done. The engine ran strongly and continuously on blocks. When it was placed on the track, it pulled a three-car train non-stop. Success at last. I'm still not entirely happy with the wick, and I plan to experiment with it some more, but at least now I know that the engine is capable of acting like a locomotive.

In the last issue we made a mistake in Marc's column that probably went unnoticed by most of you, but Dave Pinniger caught it, and in his letter he said, "Your latest SitG went around the local group, but no one noticed the strange 'Aster' 0-6-0 cab which looked as if it had been built by Manning Wardle!"

Yes, we confess....the cab shot in Marc's last column was of his Archangel TAW, not his Aster GER, and actually belonged with his reversing quadrant article in #4. - ed.

From the Backshop

by Larry Lindsay

The Fireman's Lot

When we are running our small engines, we are acting as fireman as well as engineer. The fireman is a very important part of the team in the cab. His duties involve much more than simply shovelling tons of coal into the firebox, or, if he is lucky, controlling the automatic stoker or oil firing. His most important task is to maintain the correct water level in the boiler, and then to maintain steam pressure. This is quite an art as these two requirements are not always mutually compatible. In fact, adding water to the boiler is an important part of controlling steam pressure.

The fireman has to anticipate the road ahead, the grades and the station stops. As well, he is responsible for calling signals and also assists with switching moves, both on and off the engine. On top of all that he has to clean the cab and often has to be a diplomat in dealing with an engineer who is authoritative or may not be using steam wisely or well.

The most common method of feeding water into a locomotive boiler is with the injector, which, simply put, is a gadget using steam at boiler pressure which, by a series of nozzles, imparts sufficient velocity to force water into the boiler - against that same boiler pressure. Ideally, feed water is added continuously as steam is used (as on a marine or stationary plant), but because the railway locomotive is a variable load machine, the feed to the boiler is more intermittent.

Let's take an imaginary if somewhat idealised run and see how it relates to running a small steam locomotive.

Before leaving the station you are busy raising steam to the "blow off" pressure, perhaps the safety valves are "feathering" - emitting portentous wisps of steam. The engine is oiled around and the cab brass work is polished. Don't let the safety valve pop off! At worst it could mean trouble from the head office and a nasty epithet from the engineer - in the confines of a station, a roaring safety valve can be deafening. At best it wastes water and in some cases can mean additional maintenance to the safety valve. In our scale none of the above apply except the loss of boiler water. I have noticed that some very small safety valves are reluctant to close reliably, probably due to the difficulty of scaling down the design. In full size it was not unknown for some safety valves on old engines to need a clout with a coal scoop to make them steam-tight.

Now back to our imaginary run. The firebox is good and hot and there is a full glass of water. Soon we hear "Board!", and we slowly move out of the station. Steam roars rythmically from the cylinder cocks and the water level immediately starts to fall as we march out of town. Speed picks up and the engineer "notches up" on the valve gear. This uses steam expansively and now is the time to start the injector. Most engines have at least two, one being on the engineer's side of the cab. He should test it at regular intervals to maintain it in working condition. Some engines had 3 injectors and more modern ones had pumps as well.

Now we approach a grade and the engine will be working hard. As we start climbing, we have to maintain the water level against falling steam pressure. The level can drop to 1/2 glass, but we must remember as we approach the crest of the grade that the engine will "tip over the top", and the water will flow to the smokebox end, possibly exposing the crown sheet, which is the top of the firebox. This has caused many boiler explosions.

Drifting down grade.....now is the time to sit back and watch the pressure slowly build back up. The blower is on as there is no exhaust to provide draught for the fire. Soon we approach a station. As we drift in and brake to a stop, the injector could be on to control steam pressure.

One mistake easily made is to get off the engine for any reason - view the scenery, stretch your legs or check the running gear - and leave the injector working. You climb back on the engine and the pressure has dropped back to 150 psi instead of 200, the water is over the top of the glass and the train is due to depart. This is embarrassing for the fireman, but worse for the boiler. The sudden cooling effect causes contraction, which is bad for riveted joints and staybolts. If the boiler is full of water, you have another problem. Priming - or water carryover - can damage the cylinders (water is incompressible) as well as washing out the cylinder lubrication. Cylinder covers can fracture, main rods can be bent and sometimes it becomes impossible to close the throttle! Make a brake application, open the cylinder cocks, blow down the boiler and hope for the best.

Don't worry, none of these dire consequences can happen to us - and not many of our engines are fitted with injectors. Some model boilers can even be run dry without ill effects - but be careful of the paintwork, pressure gauge and other fittings. Internally fired, soft soldered and gas fired boilers should be watched a little more carefully. In my humble opinion, a model pot boiler with an efficient firebox seems to have similar operating characteristics to a full sized locomotive boiler. This would be a moderately proportioned pot boiler, say under 2" diameter. This is a rather controversial subject, but a miniature, internally fired multi-tubular boiler has a small water capacity and needs constant water feed as well as care using the blower.

Now let's have a mythical run on a garden railway. Like the real article, you get the boiler good and hot and "full to the top nut". If you have a pot boiler with a good fire, the performance will improve as the water level drops, at least until the heating surface diminishes greatly. You have the advantage of being able to control the weight of the train. Know your engine and don't get overly optimistic in front of an audience and couple up to a train that is too heavy. If the engine has an axle feed pump, set the bypass so that the water level will be steady or just losing. A few strokes with the hand pump will top up the boiler at a station stop. Something that would add interest is timetable operation. Sooner or later we will get tired of locomotives without trains and trains running from nowhere to nowhere else for 30 minutes.

Time spent on a siding, waiting for the mail or a loaded log train to roar past, can be spent filling tanks, raising pressure or pumping water into the boiler. While I am slightly biased towards pot boilers and

alcohol firing, it must be said that I have no prejudice against any type of boiler or method of firing. All types of boilers and fuels have advantages and disadvantages for the type of engine and running you choose.....and some definitely require more skill than others. The important thing is to enjoy what you're doing and get a satisfying performance from your engine.

Whether there is any correlation between running a full size boiler and running a model is maybe a matter of opinion, but I do know that whatever problems I'm having on a garden railway are nothing like those faced by the old time fireman. Imagine slogging upgrade steadily, losing boiler pressure and having the brakes slowly applied. Why? Because the low boiler pressure has stopped the air brake compressor. Let's say you didn't take on water when you had the opportunity, then lost time due to switching or some other reason. The water level in the tender is running low, and the injector is losing suction due to sediment in the bottom of the tank. This happened more than once on the Colorado narrow gauge. The engine crew would cut off and "run for water". If they made it to the next tank without having to drop the fire, the fireman would take on water while the engineer would rock the engine forward and back to keep what water was in the boiler sloshing over the crown sheet. If the crown sheet did not come down, leading to a boiler explosion, it could be burnt and permanently damaged. Oh, Happy Days!

WANTED: Used - or even abused - Mamod loco wanted, condition and gauge not important . Write to Ron Brown, P.O. Box 335, Newark Valley, NY 13811 or phone (607) 642-8119.

FOR SALE: LGB, Kalamazoo, new in boxes, many collectibles. Send SASE to T. W. Granton, P.O. Box 4287, Calabash, NC 28459.

Gazing Into the Fire

by Peter Jones

The Beautiful Language of Steam

In the past I have often talked about the "feel" of steam engines; the way they talk to you. I reckon that it is something which comes with time. But perhaps we can hurry things along a little by trying to put down a few words on the subject.

No two engines are identical, although commercial types which enjoy large production are obviously similar to each other. I'm not going to give an exact definition of the language of a particular engine, instead we can think about the sort of things to look (and listen) for.

Even before you light the fire, the engine can tell you something. If you have no sense of dignity, you can pick it up and shake it near your ear. A little musical tinkling will tell you roughly what the water level is. You may be one of those fortunate few with a good sense of weight; you know what an empty loco feels like and can judge the water content on top of that.

There have been many devisers (me included) of little gadgets to tell you what the water level is like whilst you are filling. Although many locos offer an overflow plug, in time you will find that you can peer down the filling hole and judge the level by the size of the tiny circle of light staring up at you.

My favourite refinement to the level plug is an on/off valve. The valve is left open and the boiler is filled. The fire is lit and the warming water soon starts to squelch little drops out of the backhead. The "angry dribbling tap" sound eventually changes to a clean hiss once the water level is satisfactory (and allowing for some bubbling).

This may seem a peculiarly complicated way of going about things, but over the years I have found that I am getting on with other things whilst this is going on.

Likewise, if you have a proper drain cock on the displacement lubricator, and if you open it as well as the regulator when the first pounds of pressure are appearing in the boiler, you hear a "bloop, bloop, bloop, HISSSSSSS" noise which tells you that you have blasted all the oily water out and it is now ready for refilling.

A typical gas fired engine will ask to be lit at the chimney. The blowback causes a "Pop" and the fire is lit. It may want to roar for, say, fifteen seconds, and then you can turn it down until it just goes "Haarrrr" to itself, quietly. Once the boiler is up to pressure, it doesn't take too much heat to keep it there. You may be surprised at how low you can turn the burner down. Often you can't see the flame; you have to rely on its noise.

The spirit burner, on the other hand, is virtually silent. A pot boiler will talk to you in patterns of faint heat haze swirling across the boiler. But this means that you can hear the water boiling. At first it is just a faint "plonkle-plonkle-plonk", but as the bubbles come faster, the note rises up to the pitch of a metallic rattle.

With the regulator open, the first sign that something is going to happen is a faint cough from the chimney. The loco may give a slight shudder. This is because the early pressure is enough to clear the dampness out of the cylinders. If you have a pressure gauge, you may see it fall back briefly, straight after this false dawn.

By now, the engine is alive. It is hard to put into words exactly what conveys this impression. Perhaps it is the faint boiler noises or the drops of water coming out of the cold glands. But alive it is.

It will now be ready for action. Once again it might nudge forwards half a turn of the wheel and then stop. It is asking you to clear the cylinders. You will be running the loco gently to and fro, closing and opening the regulator. Locos vary, but most will spit some hot water. The wheels want to lock. But then, in your fingers you feel the pure, clean power start to take over. The lumpiness melts away and the loco wants to be off. And often, to be off much too fast - particularly if it is a Mamod. With a fierce regulator, I like to walk alongside the engine, gently opening the regulator until the engine merely wants to take its dignified leave of me.

You will get to know the characteristics of your particular engines when all is going well; just what sort of regulator setting to give with a particular load. You will be particularly listening out for it to tell you when it needs something. If it slows down, you know that either the water or the fuel is running low. In the case of fuel, this means running out usually! The engine will come to a stop because you have forgotten to keep a timing of the run and the need for replenishment at a certain interval. Well, no harm done. If water runs low, the engine will slow down and shimmer to itself as it gets hotter. Most locos will stand a bit of cooking, but the radios are vulnerable.

Surprisingly, you may sometimes find that a symptom of an imminently empty boiler is a brief but dramatic improvement in performance. This is because the last few drops of water virtually flash into instant steam. You will soon have discovered that a boiler with a low water level makes steam faster than a full one. When you first run steam engines, it all seems like miniscule differences, but you will soon get attuned to the feel of things and listening out for them will get relegated to subconscious level - you will be aware of what is going on without stopping for breath whilst gossiping with friends.

When you come to the end of a run, and if you have judged things well, you might just have enough steam to take you to the disposal spur. I rather like the sight and sound of an engine, sitting quietly, with wisps of steam curling up; very evocative.

In particular, if it is the fuel that is running out first (as it should be on all well regulated railroads - and here I blush) the escaping steam settles itself gently down. There is a faint murmuring in the boiler for awhile. And then - so suddenly - silence. If you listen carefully, that transition from living machine to inanimate object is quite dramatic. It is a last instruction; to clean down the bodywork and wipe away the oily drips. The conversation has ended - for awhile.....

Miss Randi....My First Steam Loco

by Bob Nowell

Those who read SitG issue #5 know that the Coalport RR has a new addition to its family of locomotives. She's our first steam powered loco. Your editor and my very good friend, Ron Brown, asked me to write a few words on how she came to be. But before I get into the HOW, I'd like to tell you a little bit about WHY.

I have been a model railroader and part-time railfan for most of my adult life, but I have had a love affair with steam powered locomotives since early childhood. I was born and lived next to the Reading RR main line in Philadelphia, Pennsylvania. Twenty-four hours a day steam engines would shake our little apartment. On Sunday, when most families would go to the park, my father would take me to the local railroad yard to watch the trains. I had my first ride in a steam engine before I was 5 years old.

My love of steam engines never died as I was growing up, but the steam era did. It wasn't until I spent four years in the engine room of a Navy ship that I got an understanding of the workings of steam equipment and the power of high pressure steam against a piston. I left the military service with a burning desire to own and operate my own steam engine, but it wasn't until the early 1980's that I had reached a point in my life where I felt I could chase my dream.

After a couple of years of reading books, magazines (like Live Steam), sending away for every catalog and talking to people who had steam engines in 5" and 7 1/2" gauge, I came to the conclusion that I wasn't smart enough or rich enough to build my own steam engine. I never gave any thought to the smaller size steam locos that run on gauge 1 and gauge 0 track. I had been told and had read that the smaller sizes just weren't practical, wouldn't work, etc., etc. Unfortunately, I wasn't reading any publications from the U.K. - if I had been, I would have known better!

That would have been the end of the story, except that in 1989 I got involved in the wonderful hobby of garden railways. At the first meet I attended, I met Ron Brown. He had three small-scale live steam engines in front of him and he was firing up his Roundhouse Fowler. My first question was, "Do they really work?" This was followed by at least 1000 more questions, and I followed him around like a shadow that day. He made it look so easy! And yes, they did really run! In fact, every one of the steam engines I saw that day operated with no problems at all. I left that meet with two thoughts in my mind.....I wanted a larger garden railway and I wanted a live steam engine running on it!

When I started looking at prices I got a little shell-shocked. I just didn't have $1,000 or so laying around in my checking account, so I decided to build my own steam engine but had no idea where to begin.

Then in 1990 Peter Jones brought out his **Garden Railway Guide #4, First Steps in Building a Steam Loco - Introducing DACRE.** After reading this book a few times, I felt I could build my own live steamer using Roundhouse parts. Peter made it sound so easy! By this time I was corresponding with a fellow live steam enthusiast in Wales - he offered advice and a pair of cylinders to get me started. With the gift of the cylinders, I knew there would be no turning back.....I was going to have my own steam engine!

While waiting for the cylinders to arrive, I ordered all the other parts, such as wheels, valve gear, bearings and so forth from a supplier across the Big Pond. I also dug out a plan I had for a little 0-4-0T Porter and built a frame, cab, fuel bunker, boiler and burner assembly.

Photo by Bob Nowell

If there is a hard way to do something, I will find it! Once I had the cylinders in hand I began to realize that there is a little more to a steam engine than I had thought. I had not given any consideration to the valve gear installation, my frame was too flimsy, and the boiler was much too heavy.

In short, my first start was a false start. I had given too much thought to building a SCALE engine, and not enough to building a WORKING live steam engine. If I had followed the direction given in Peter Jones' book, I wouldn't have found myself in this predicament.

At this time I was also corresponding with a live steam enthusiast and engine builder in Canada, and he offered to take all the parts I had and build a working chassis for me. As much as I was reluctant to let someone else do the work (I wanted to be able to say that I had built it myself), I gave him a big THANK YOU and told him to go to it.

Within a short time I had a working chassis, to which I added a boiler I had built and pressure tested to 100 lbs. It was piped to the chassis, air tested, and I had a working loco. It ran perfectly!

Another fellow from Canada that I had just met the week before on a steam railfan trip offered to build a lubricator and burner assembly for me. I was beginning to feel like I was using people, but I accepted his offer and gave him a big THANK YOU, too.

The rest was easy. I built the cab from sheet brass, the side tanks and fuel bunker from tinplate. Wooden buffer beams and Kadee couplers were then added to the front and rear. This brought us up to January 26th, 1991, when she was fired up for the first time. Miss Randi has run perfectly from day one - except for a steam leak which was corrected with a new steam chest cover gasket.

There are still a lot of detail parts on order, but none that will make her run any better. The photos show her as she looks today, still waiting to have the detail added in late winter of 1991.

I want to say THANKS to all my friends who gave their time, material and wisdomto help me have my first steam loco. There are a lot of wonderful people all over the world involved in this great hobby of small-scale live steam. Now that Miss Randi has logged about 10 hours, and I have burnt my fingers once and started a small fire in the garden, I hope that I can be considered a member of the international fraternity of live steamers!

Weedy Side Tracks

by Fred Kuehl

To Two or Not to Two - a Look at Double-Heading

One day last Spring I was sitting on the beer bench located near the depot at Woodside on my Stoney River Railroad. It was a warm day, and the shade, together with a gentle breeze, cool brew and the chirping birds in the trees, made things just perfect for sitting back and watching the trains go by. ***JENNIFER***, a Roundhouse Engineering 0-6-2T tender locomotive, was pulling the "Rusticator", one of the Stoney River Railroad's crack passenger trains. It was getting near time to change engines and add the parlor-observation car that was waiting at Garden City to the consist. The train was stopped at the Altimont Avenue grade crossing and ***JENNIFER*** was cut off and run down to the servicing track.

The next locomotive up for duty was ***DYLAN***, a Roundhouse 0-4-0T. After being quickly coupled to the train, the consist moved down to Garden City to pick up the parlor-observation car. the train was now five cars long and about three minutes late, so little time was wasted in getting under way. On approaching Hamlin depot, the block signal was in the "STOP" position, and a yellow flag hanging from the telegrapher's bay window indicated that the train was to receive orders. An express refrigerator car and a baggage car were to be added to the train. This being done, the "Rusticator" departed and yours truly returned to the shady beer bench to do some train watching.

Now, this was a rather heavy train of five LGB two-truck passenger cars, a Delton baggage car and an LGB express reefer. ***DYLAN*** is a small 0-4-0T but a most determined locomotive. Noticing some wheel slip on the grades, I realized that ***DYLAN*** needed help. Should I dare to add a second locomotive and double-head the train? I had never tried this with a heavy, full length free-wheeling train. Would the train get away from me and could I manage two locomotives at the same time? Would one engine drag or fight the other? Would it work at all? Sure, I had double-headed snow plowing trains, but they were only three cars long, including the plow, and the resistance of the snow kept the locomotives in check most of the time.

Except for cosmetics, both locomotives used were almost identical Roundhouse Engineering products, and, as a result, they were very compatible for double-heading. But how would locomotives by different manufacturers, burning different fuels (alcohol, butane, etc.), equipped with different valve gear and wheel arrangements and weighing in at quite different poundage behave when coupled together with a hefty train in tow? The only way to allay my concerns and answer these questions was to get a little deeper in the "fun" part of live steam garden railroading and start double-heading some trains!

Being a former railroad man and having spent a lot of time in the cabs of full-sized, high iron diesel locomotives, I had the advantage of first hand experience to know how the prototype engineman handles the throttle of a double-headed or multi-locomotive consist that is pulling a heavy train. Being fully aware that weight, inertia, friction and the effects of full-size gravity do not scale down, and the locomotives and cars we use on garden railways do not have working brakes or throttle positions for allowing locos to coast, I decided to double-head the locomotives anyway and follow some of the prototype practices. To my surprise, it was a good decision because for the most part, it worked. While diesel locomotives do not behave the same way as steam locomotives (models or prototypes), I will discard their differences for now and discuss points on which prototype and model steam locomotives can be very similar when they are double-heading trains, specifically on the garden railway.

Since this is an over-the-back-fence conversation, I won't get into intricate and detailed information, calculations and explanations. After all, we should be having fun doing this and no one is going to be thrown into jail if their train derails because we forgot to do something or did something wrong!

Most of us are familiar with how our small scale steam locomotives work, and after a few running sessions we become more confident with our little charges. But this time, let's go one step further and get into operating our locomotives by double-heading them with long trains. The key words here are ***running*** and ***operating***. To the garden railwayman, there is a difference between running and operating steam locomotives. When a loco is simply fired up, placed on the track and run all by itself, with no work to do or train to pull, we are ***running*** the locomotive. There's nothing wrong with this. I still do it and it's a lot of fun. But this time we are going to spend more hands-on time with the engines and train, give the locos meaningful work to do and watch the controls a bit more. When we do this, we are ***operating*** the locomotive.

When a locomotive is running light (without a train to pull), it tends to free-wheel down the track a bit more and responses to throttle adjustments tend to be very abrupt. They can get just plain frisky. In the early days, the Stoney River ran many engines light. Besides this practice being a terrible waste of fuel, the local citizen population (a rowdy bunch!) became tired of riding on couplers, running boards and hot steam chests. Locomotive crews had hair-raising experiences trying to control their little steam pots on down grades and sharp curves. One crew, with a reunion party of local Kickapoo Indians on board, wrote to the superintendent, "Lady Anne, while attempting to round the curve at Squawbottom Bog, got unmanageable and became an 0-3-0 when her left drivers lifted off the rails, flinging Chief Five Barrels and medicine man Eyes-Sky-High off the pilot beam into the briars!"

It was evident that several cars coupled to the engine would give the loco something to do, and thus control would be much easier. Energy previously available for charging down the track had to be redirected towards pulling the train.

In the next issue we'll talk about operation. Until then, I hope this article on double-heading will get you out to the garden railway to run your steam locomotives. If you do, I think you'll find it worth the time we spent walking this weedy side track together - which, by the way, has just run out of rails and ties. We are now on a mixture of cinders and knee-high vegetation, with tree saplings that are taller than we are! Time to say.....see you next time.....on this weedy side track.

Steam in the Viewfinder

Okay readers, you asked for it and here it is - the first in a continuing series of photo runbys. I'm not sure that I like the title we selected, but I sure am impressed with the photos some of you have sent in! Thanks to everyone who responded to my plea for photos to use in this feature.

Special thanks to **Dave Pinniger**, who has contributed several of the great photos used in this issue and promises that even more are on the way. Through Dave's lens we are able to get a good glimpse at the level to which our kindred spirits in the United Kingdom, many of whom helped pioneer the rebirth of small scale live steam nearly two decades ago, have brought this most excellent of pursuits. I believe that we owe them a vote of thanks for their efforts, without which we'd probably all still be running electric trains. I'm sure that we all look forward to seeing more of the fine garden railways and steam engines bringing joy to their builders, owners and operators in the U.K.

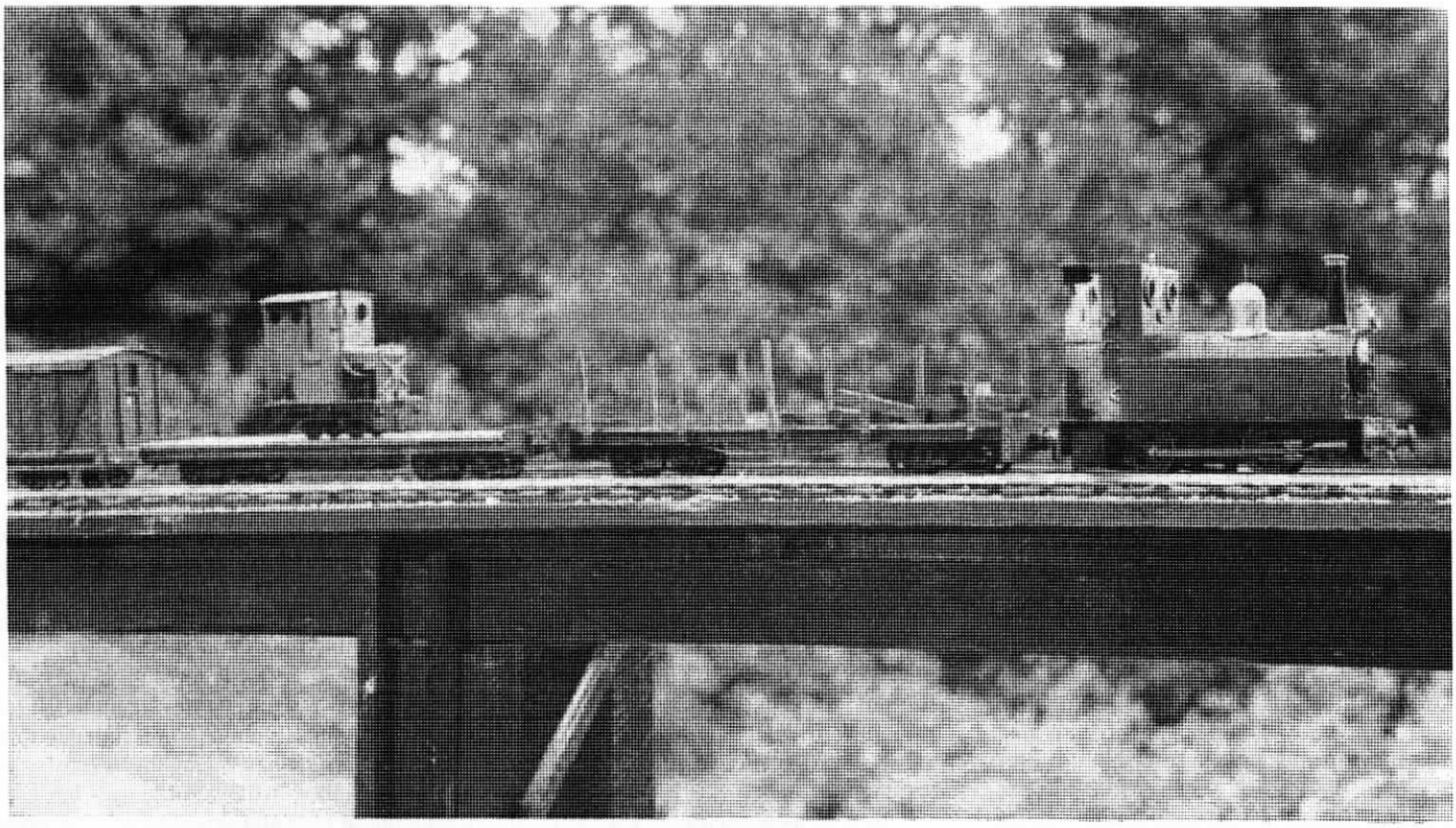
Now that winter is nearly over (you California readers can stop that laughing right now!), it's time to get out the cameras and start recording those scenes that you'd like to see immortalized in these pages. A photo feature like this is going to require a lot of photo input from all of **YOU** to keep it going!

So send in those shots - black & white or color, any size - of steam engines at work or at rest in any appropriate setting. Include a detailed description with names, places and dates. We need to know who took the photo and who is sending it in. If you are sending it in but are not the photographer, we need a release from the photographer. Just a signed statement that it's okay to print the photo(s) will do.

If you would like the photos back when we're finished with them, please mention this prominently and include a SASE and we'll gladly send them back to you.

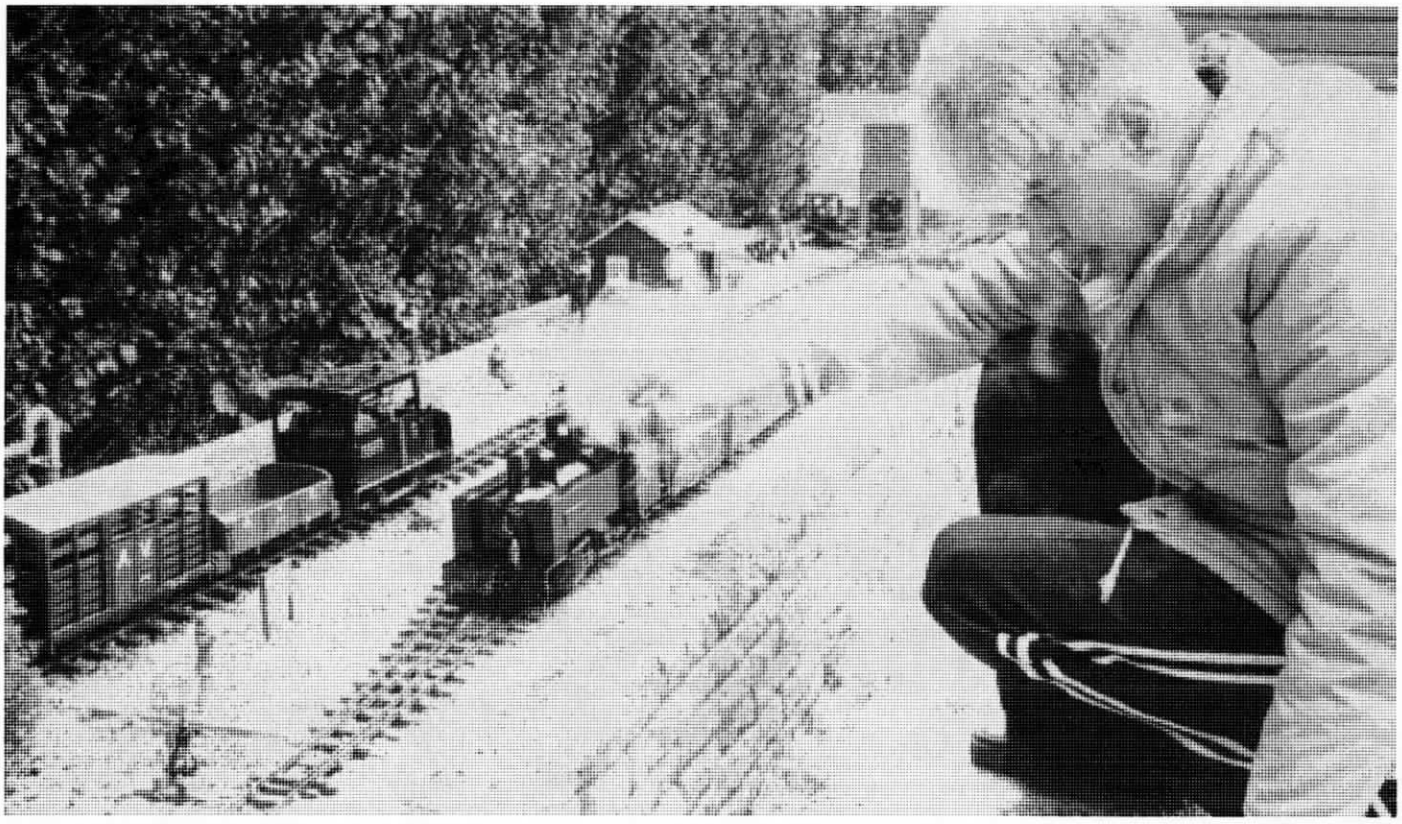
In addition to the photos, how about sending in some suggestions for a better name for this feature? We're offering a free copy of our **Special Edition** to the SitG reader that sends in the name we like best.

That's enough words - let's settle in for some serious daydreaming as we enjoy the photos on the next few pages!



Above: Peter Mesheau's **Archangel** ***MARMADUKE*** hauls a tiny Hudson Hunslet, ***EMMA***, over the rails on Geoff Coldrick's Great Central Railway to its new home on the Silo Falls Scenic Railway. ***MARMADUKE*** has a single cylinder located between the frames and utilizes slip eccentric valve gear. ***EMMA***, though obviously not a steam loco, is built as solidly as a steam loco and fills a definite need on live steam railways for a battery loco to operate at those times when you're between steamups or it just isn't convenient to take the time to tend to a steam engine, but you want something running for a bit of railroad atmosphere. ***EMMA***, formerly built by Merlin, is long out of production, but Geoff is offering a similar loco, which he's calling ***EMMETT***, in both gauge 1 and gauge 0 at a very reasonable price. Check his ad in this issue.

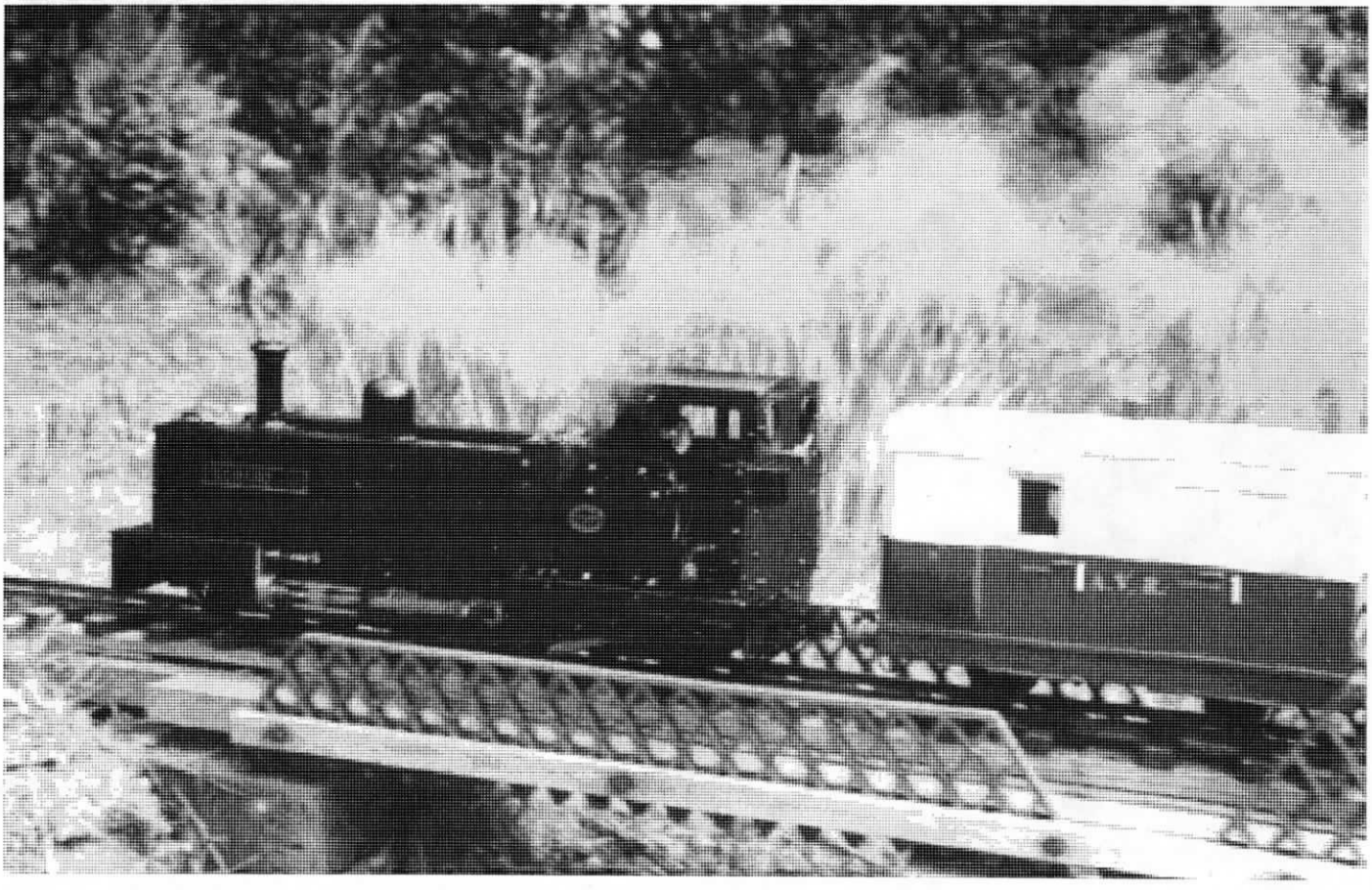
Photo by Peter Mesheau

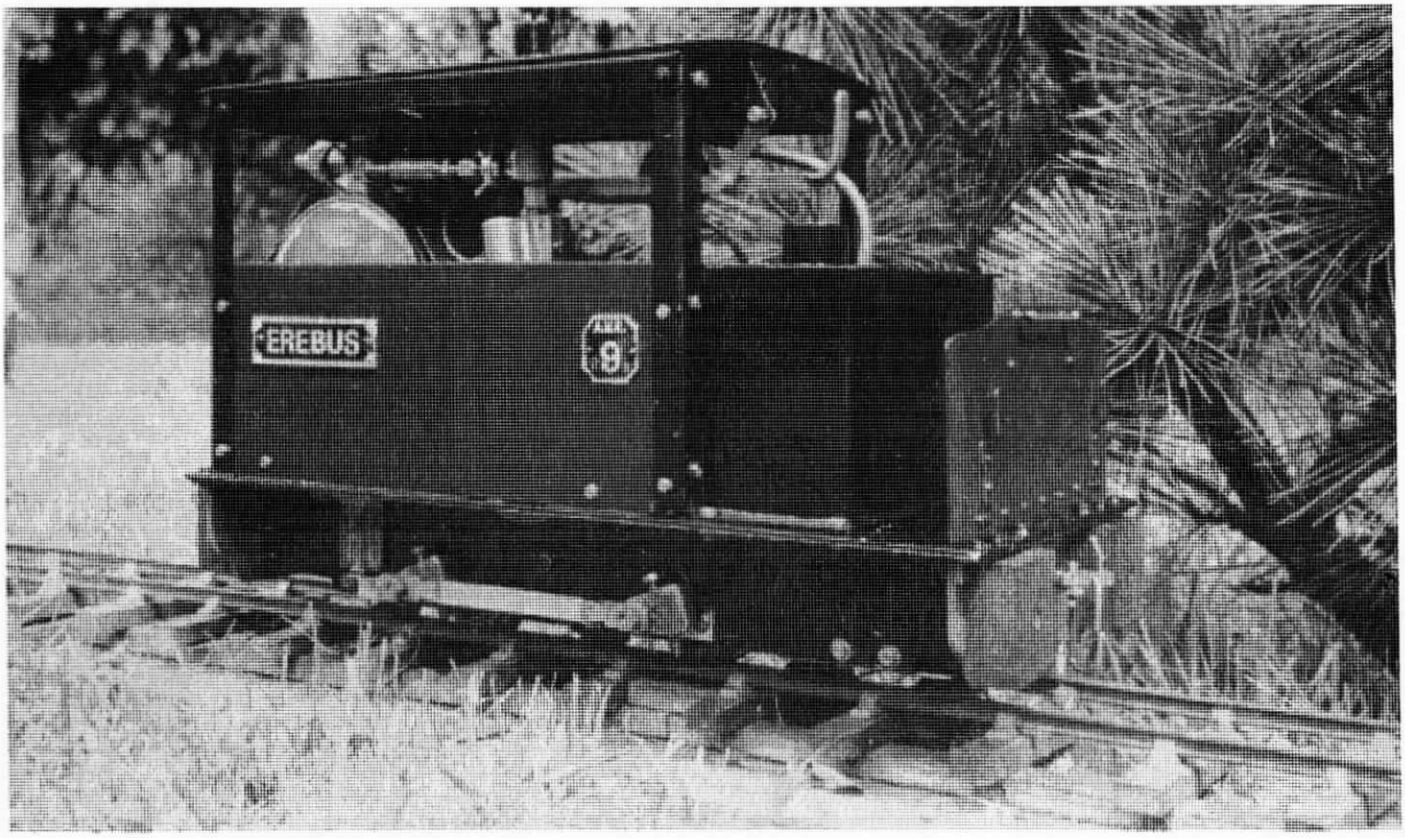


Top Photo: Pete Armstrong, his hand and arm nearly obscured in a dense cloud of smoke and steam, starts his ***RICHARD III,*** a Vale of Rheidol 2-6-2T built by Harvey Watkin. ***EREBUS*** waits in the bay with the goods arrival from Higher Buxton.

Bottom Photo: ***RICHARD III***, drivers and motion just a blur, makes up for lost time as it thunders across the bridge at Marc's Hollow.

Photos by David Pinniger

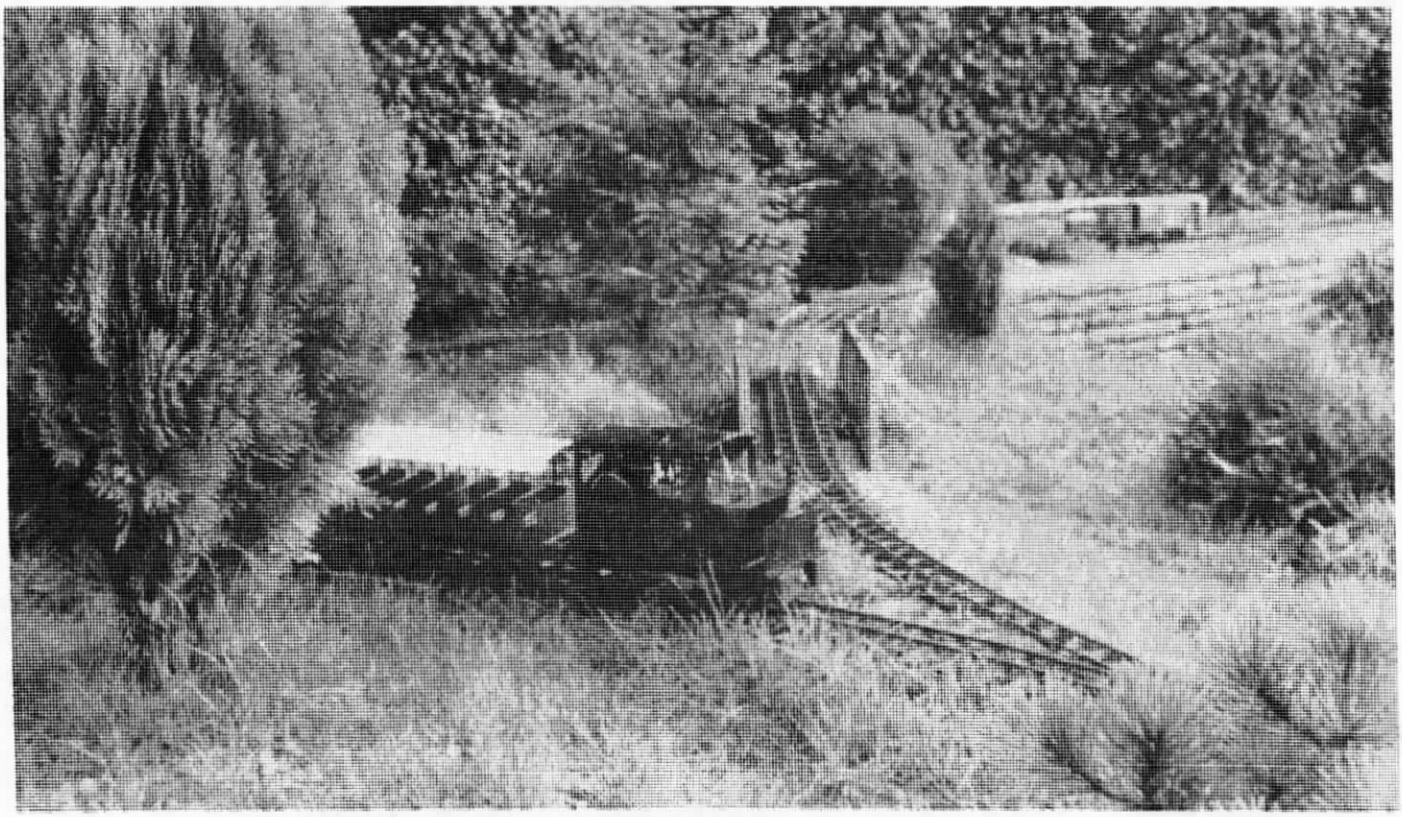


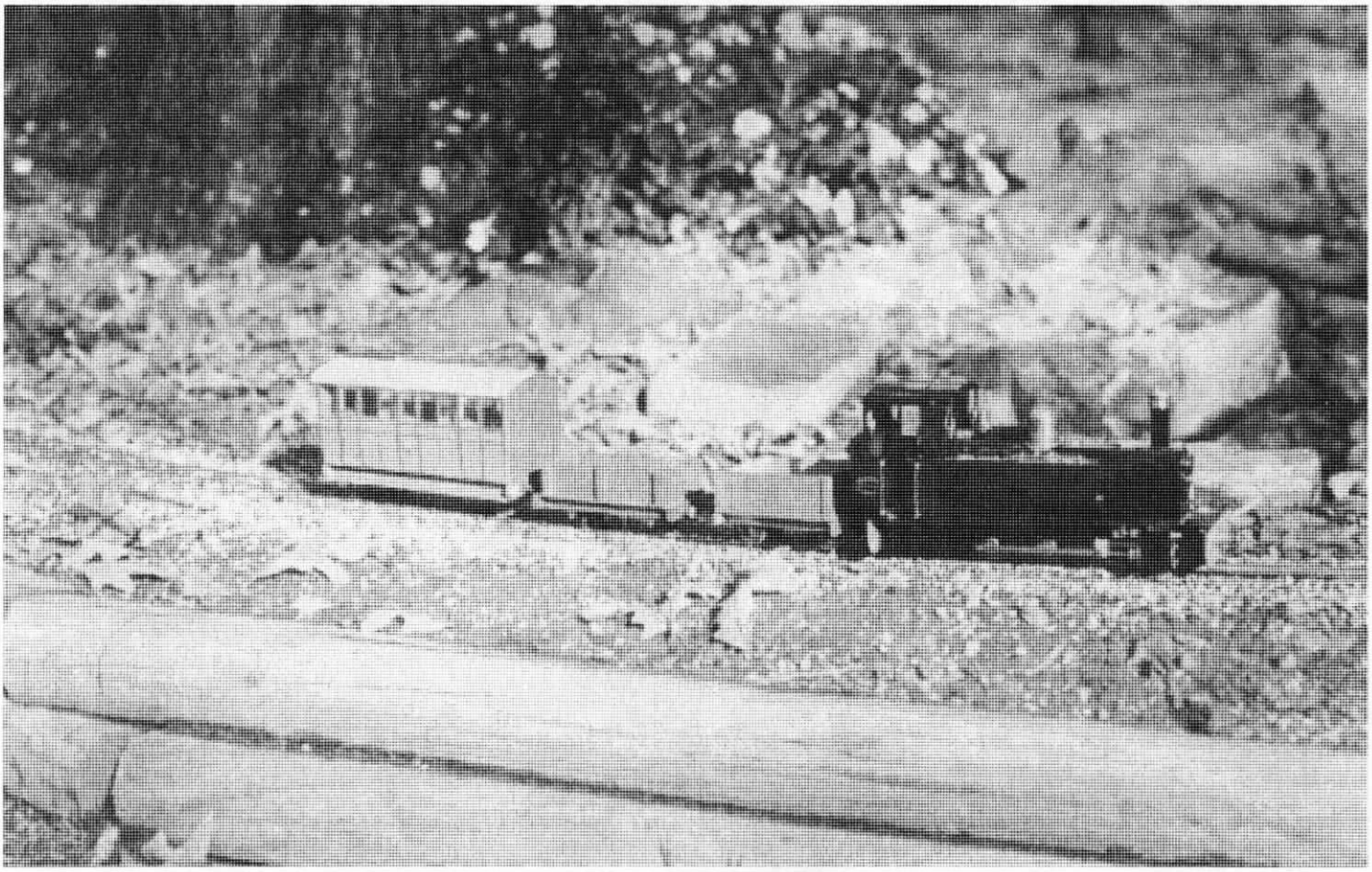


Top Photo: ***EREBUS***, a single-cylindered geared tram built by the late Jack Wheldon. Geared 8 to 1, the mechanism utilizes a Mamod single acting cylinder on a Wheldon-designed steam/reversing block.

Bottom Photo: Wheldon steam tram, ***EREBUS***, flat out at 20 mph approaching Amble Junction on Dave Pinniger's Ambledown Valley Railway. The coach is an ex-Ogden Botanical Railway toastrack built by Marc Horovitz.

Photos by David Pinniger



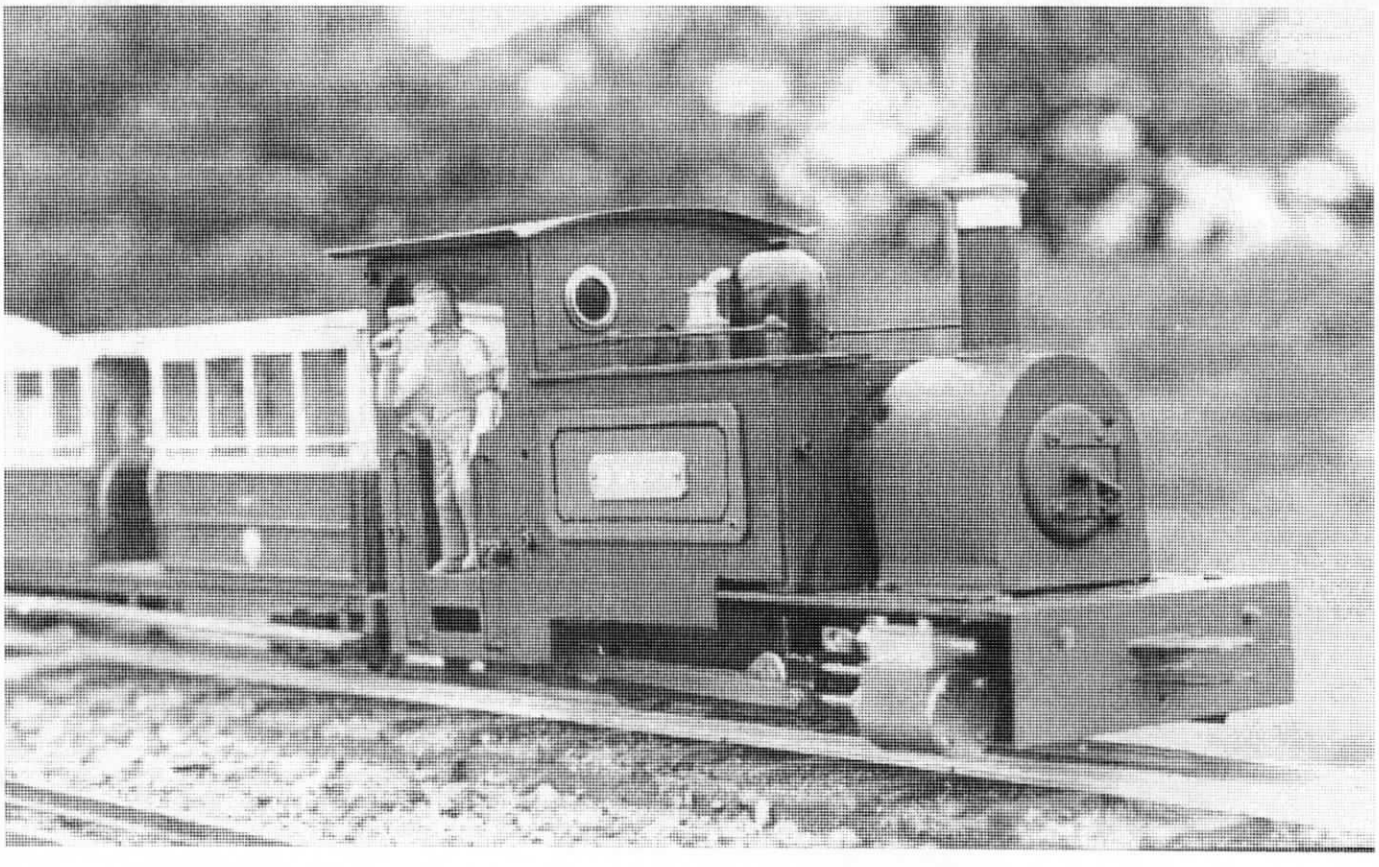


Top Photo: A Roundhouse ***Lady Anne*** and her train of scratchbuilt cars on Tom Sullivan's Queen's Convent Railway in Virginia.

Photo by Thomas Sullivan

Bottom Photo: ***SAMSON***, another of Geoff Coldrick's fine scratch-built steam locos, pauses for a photo opportunity on Geoff's Great Central Railway in New Brunswick.

Photo by Peter Mesheau

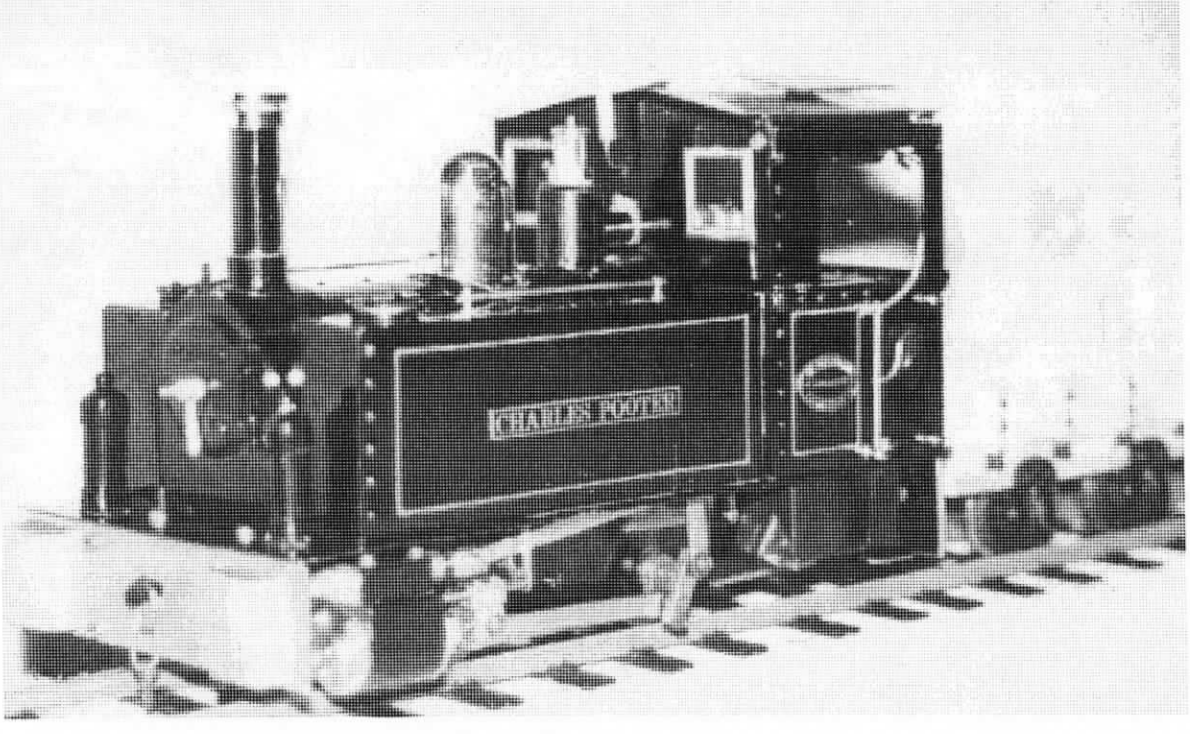


Top Photo: A Merlin 0-4-0T and its short train pass over a trestle on John & Pauline Wenlock's magnificent Clywd & Dee Railway in Wales. A photo of the Clywd & Dee in *Garden Railways Magazine* captured my imagination and inspired me to jump right in and start building our own garden railway. Notice the exquisite stonework on the far bank.

Photo by John Wenlock

Bottom Photo: Roundhouse Engineering ***CHARLES POOTER***. Originally designed and built by the late Jack Wheldon, then later taken on as part of the Roundhouse Engineering line until recently discontinued. The ***POOTER*** was a bit unusual in that it had Hackworth valve gear. This particular ***POOTER*** was my very first live steam loco. Alas, CP is now residing somewhere in Southern California. Lesson learned: Never, ever sell a steam loco - you'll regret it forever!

Photo by Ron Brown



Loco Review - LGB's *FRANK S.*

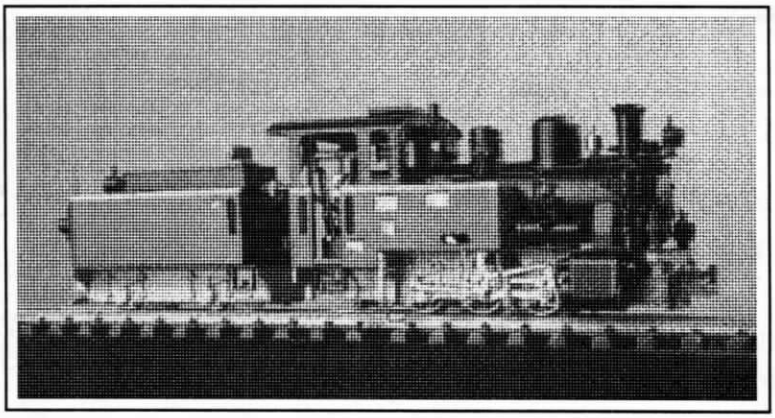
by Ron Brown

Description: Narrow-gauge 0-6-0, modelled after a locomotive that is still in operation on the Jagstallbahn in Germany.
Price: $2400 (see last paragraph)
Available from: LGB dealers
Standard features: Highly detailed and nicely finished in green, red and black - comes complete with nameplates, builders plates and number plates. All wheels insulated. Water level gauge on boiler backhead. Couplers are compatible with LGB-style couplers.

Technical Specifications:
Scale = 1:22.5
Gauge = 45mm (gauge 1)
Length (over buffers) = 472mm
Width = 106mm
Height = 146mm
Weight = 4.3kg
Cylinders = 2 double acting cylinders with piston valves
Bore & Stroke = 15mm bore x 16mm
Boiler = Center flue, butane fired, 180ml capacity @ 80%
Lubricator = Displacement type

I was quite interested when I first heard that LGB was planning to bring out a real, honest-to-goodness steam locomotive - and became even more so when it was announced that Aster would be building the loco for LGB. Both of these firms have an excellent reputation for quality, so it was unlikely that they would be producing a turkey.

When a ***Frank S.*** became available for testing, I jumped at the chance to have one on loan for a period of time sufficient to review it for SitG readers. Ron Gibson at LGB America in San Diego arranged for a brand new Frank S. to be delivered to our plush editorial offices and hi-tech test facility here in upstate New York, where it was received with great enthusiasm.



Coming out of the box, ***Frank S.*** looks exactly like you'd expect something from LGB and/or Aster to look - beautiful. Paintwork and detailing is crisp, sharp and neatly done. The loco and tender are quite heavy, which is beneficial in a steam-powered locomotive as it helps to tame the power pulses, smooth things out and improve traction.

The mechanics are, for the most part, solid and beefy. The only exception we noted was that the valve gear seems a bit fragile, but it caused us no problem during the testing and evaluation period - nor should it, as long as reasonable care is exercised in handling.

The cylinders are fitted with piston valves, which means that a rotary valve feeds steam to the cylinders and also serves as a reversing mechanism. This arrangement is generally satisfactory, but I didn't care for the throttle quadrant on the ***Frank S.*** at first. It has detent positions in full-forward and full-reverse only, which means that it cannot be used to control the amount of steam flowing to the cylinders.

However, once I got used to using the steam valve to control the speed, I found that it worked very well - actually better than using the rotary valve for this purpose.

The smokebox door opens for lighting the burner, and, if our sample was anything like the norm, ***Frank S.*** owners will see a lot of the inside of that smokebox. The burner just didn't want to light and stay lit until after it was well warmed up.

The burner and associated fuel system was the weakest point on this loco. The fuel tank is not easy to fill, due at least in part to the absence of a vent. The gas control valve is very large and offensive to the eye - but worse than that, it's so touchy that for all practical purposes it's non- adjustable. Just touching it is enough to put out the fire. If I owned a ***Frank S.***, the first thing I'd do would be to change the gas control valve and the second would be to install a vent in the fuel tank.

Frank S. is equipped with all the usual amenities that a good steam loco should have - and also has some unusual features that are worth mentioning. The displacement lubricator reservoir is disguised as an air tank mounted just in front of the right-hand side tank. It looks as though it really belongs there, which is a refreshing departure from the usual lubricator that stands in the cab doorway, sticking out like a sore thumb.

The fuel system, which annoyed me a great deal, also had some good points that need to be mentioned. The fuel line that runs between the fuel tank in the tender and the burner in the loco cab is equipped with a quick disconnect at the burner. Just plug it in to run or unplug it to separate the loco from the tender.

The fuel tank itself, which is located in the tender, is surrounded by a dam that can be filled with warm (not hot!) water. This helps the liquid butane gas to vaporize and maintain pressure to the burner in cool weather, and it also keeps the tank and fittings from icing up.

The fuel tank is large enough that it holds more fuel than necessary for a single boiler-full of water. When the fuel tank capacity exceeds the boiler capacity, it's important to keep a close eye on things to ensure that the boiler doesn't run dry. In the case of the Frank S., there is a large water gauge glass on the boiler backhead that is easily visible through the rear cab opening to make this a bit easier.

Our test loco was not equipped with R/C, but provisions have been made for it. There's plenty of room in the tender for the receiver and battery pack, and there are mounts inside the right-hand side tank for a servo. This puts the servo in close proximity to the throttle quadrant, and it would be a simple matter to attach a linkage between the two.

If I were fitting R/C to a ***Frank S.*** I wouldn't stop there. There are no provisions made for it, but mounting an additional servo to operate the steam valve would be an easy installation and would make controlling the loco a much more pleasant experience.

An unusual feature of the ***Frank S.*** is the size and mounting location of the pressure gauge. There is a removeable rubber hatch in the cab roof, under which is an enormous pressure gauge. This makes it easily visible from several feet away, but I just couldn't get used to the sight of this giant cyclops eye staring at me from the cab roof. This is purely personal preference, but is one more item that would be changed if I owned a ***Frank S.***

Under steam is where this loco really demonstrated its pleasant personality. Lots of power, but smooth and controllable at all times. Things were a bit tight at first, as would be expected from a brand-new engine, but after a couple of runs it loosened up and ran like the proverbial Swiss watch. Burner noise was acceptably low, and there was no problem building steam and maintaining pressure - even with a train of 6 cars running on the SFSR's steep grades.

It was a pleasant surprise to find that, unlike many rod engines, ***Frank S.*** didn't run away out of control on the downhill run when the throttle was adjusted to handle the steep upgrades. It would pick up speed, but not enough to cause concern.

Clem O'Jevitch, a member of the Pennsylvania Garden Railway Society and first class finescale narrow gauge modeller, bought a ***Frank S.*** and wanted some assistance in getting his first live steam loco up and running. We arranged to meet at Bob Nowell's on a cold winter day, threw a loop of LGB track outdoors on the ice and snow (Judy wouldn't let us run them in her living room) and ran Clem's brand new ***Frank S.*** and our test loco outdoors in 20 degree weather without any difficulty at all.

To sum it all up, the ***Frank S.*** is a well engineered, very high quality, beautifully crafted locomotive with a few minor annoyances that could easily be remedied - or overlooked if you aren't as picky as I am. It runs exceptionally well and is definitely worth having. The list price (around $2500) is high, but with actual street prices on this loco ranging around the $1000 mark, it's a good buy for both novice and veteran steam enthusiasts.

Loco Review - Roundhouse Engineering's **FOWLER**

by Ron Brown

Description: Narrow gauge plantation-type locomotive. The prototype was built in 1924 by John Fowler and Co. Ltd. of Leeds, England, for the Inisfail Tramway in Queensland.

Price: Manual Version - $1017 -- R/C Version - $1176 -- (prices are FOB England - shipping, insurance and customs fees can add 10% or so -- prices subject to fluctuate with the exchange rate, which was £1.00 = $1.77 at the time of this writing).

Available from: Roundhouse dealers in U.S.A. and the United Kingdom (check dealer ads).

Standard features: Nice rivet detail and pipe work, choice of green (prototype color), maroon or black paint, builders plates, manually operated Walschaerts valve gear, English-style center-buffer couplers.

Technical Specifications:

Scale = 16mm (19:1)
Gauge = 45mm or 32mm (gauge 1 or gauge 0)
Length = 21"
Width = 4.5"
Height = 6.5"
Weight = 10 lbs.
Cylinders = 2 double-acting slide valve cylinders operated by Walschaerts valve gear
Bore & Stroke = 9/16" x 5/8"
Boiler = Center flue, gas fired, approximately 25 minute duration
Lubricator = Displacement type

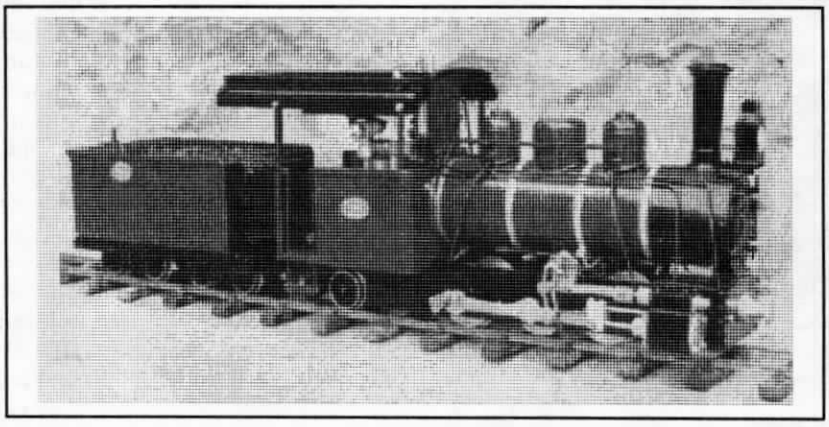
When I first saw the ads for Roundhouse Engineering's Fowler, I was very enthusiastic. Here was a locomotive that looked almost American - it even had a tender. I read everything I could find on it and even called England to talk to Richard Longley at Brandbright about it. I finally ordered a maroon Fowler in gauge 1 and settled in to wait. After a surprisingly short wait of only 2 months or so, the package from England arrived.

I was disappointed to find that it was green instead of maroon, but the excitement of having a brand new steam loco in my hands overcame this initial disappointment.

This loco is modelled after one that was built by the Fowler Loco Works in England for export to New Zealand. It looks very much like a plantation loco that might have worked in the Southern United States or in Hawaii, hauling logs, sugar cane, pineapples or whatever. It would be right at home with a cane harvesting crew in South America - or many other places in the world, for that matter.

Nothing is perfect, and so it was with my Fowler. I was horrified to discover gas plier jaw marks on some parts under the boiler (at least they couldn't be seen) and epoxied finger prints on the boiler that wouldn't come off. A letter to the dealer brought no response and a phone call yielded the equivalent of a shrug, so I resigned myself to living with the imperfections. No other Fowler owners I've spoken to have had any such problems, so it was most likely an isolated instance.

The Fowler has proven itself to be a solid, reliable locomotive with a very mellow and pleasant personality. It's a hit with the onlookers everywhere it runs, and many people ask me pointedly, *"Did you bring the Fowler today?"* or *"When are you going to run the Fowler?"* After a couple of years I don't even notice the plier marks and the epoxy fingerprints any more - and I've even come to like the green paint job.



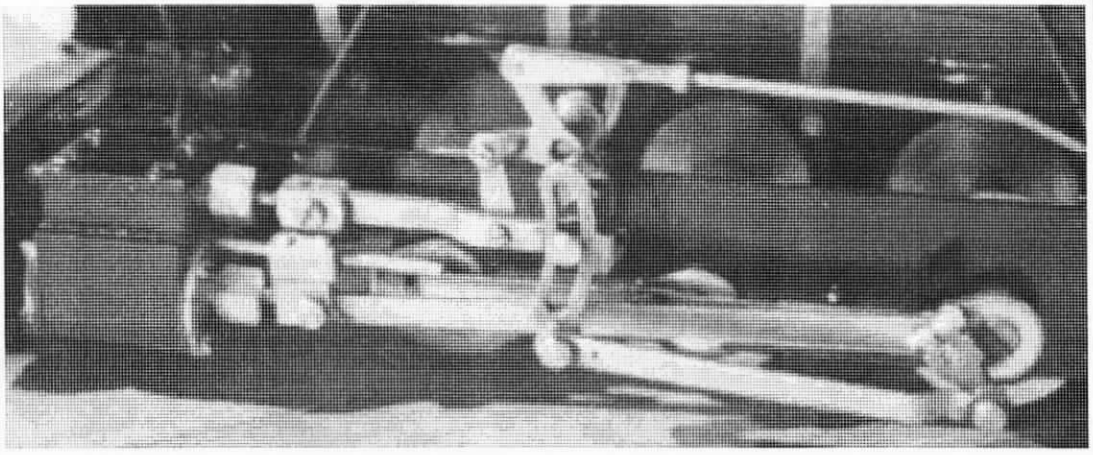
Roundhouse has a reputation for building locos that run well right out of the box, and ours is no exception. ***TRUDY,*** as our Fowler is named, has a very sweet disposition. Taking her out for a run is as simple as filling the boiler with distilled water, then removing 25cc's for steam space, draining the lubricator of water from the previous run and filling it with steam oil, giving all the moving parts a shot of lubricating oil and holding a flame to the stack while cracking the gas control valve.

A satisfying POP is heard as the flame flashes back, then the burner settles down to a steady roar. After letting the burner warm up for a minute or so, the gas valve is opened further to speed up the steaming process and we busy ourselves with other things while keeping an eye on the pressure gauge.

When the needle on the gauge approaches the 40 lb. mark, we first switch on the radio transmitter, then the receiver, and move the transmitter stick forward to position the Walschaert's valve gear. The throttle is opened slightly to warm up the cylinders and the valve gear is rocked back and forth a few times between forward and reverse, then the throttle is closed again. This will generally cause the needle on the pressure gauge

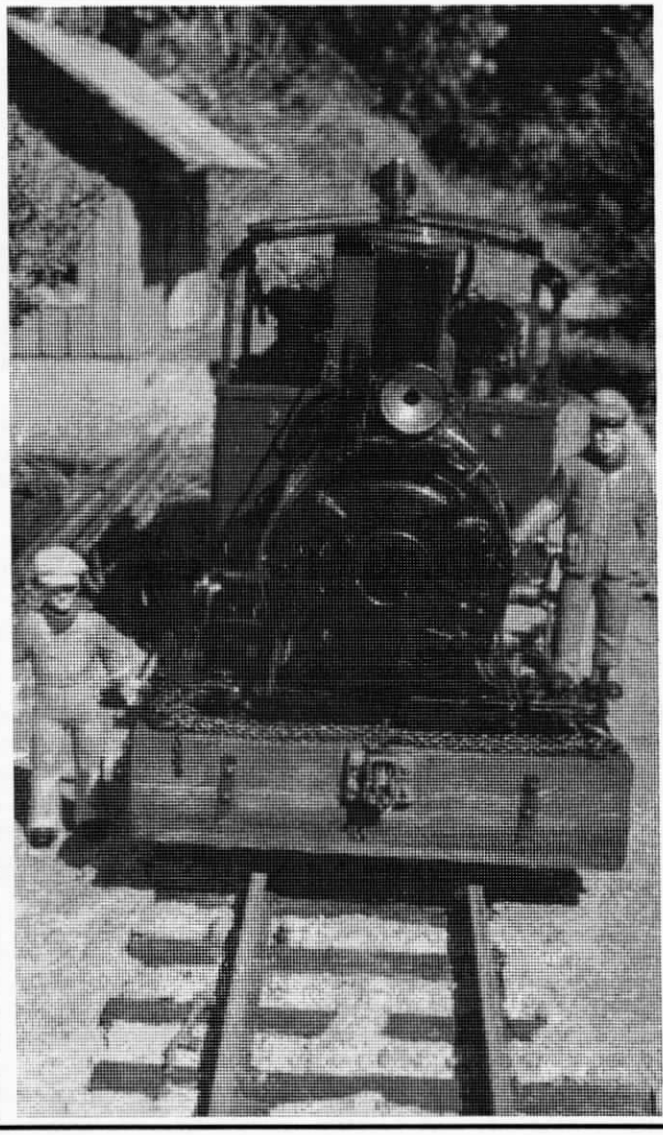
to drop, but it will come back up to operating pressure very quickly.

When the needle climbs to the 40 lb. mark again, the burner control is turned down until the roar of the burner is just a whisper. This will conserve fuel and water, making for a much longer run. Occasionally, when there are lots of cameras and camcorders recording the run, I'll leave the burner turned up high so that the safety valve will lift frequently. This uses fuel and water at a prodigious rate, but gives a very showy display of steam for the cameras.



ABOVE: Closeup of the Walschaert's valve gear and cylinders on the Roundhouse Fowler. The link and clevis at the top center is attached to the direction control servo or reversing quadrant in the cab.

Photo by Ron Brown



ABOVE: Jim Petropulos has added some simple but very effective details to his Fowler, some of which are much in evidence in this shot showing the wooden pilot beam, footboard and link & pin couplers. The brass headlight casting is by Trackside Details. Look for more shots of Jim's Fowler elsewhere in this issue.

Photo by Jim Petropulos

At this point we'll run the Fowler back and forth on the steaming track a few feet in each direction to clear the cylinders of condensate, then we'll back up to our train and couple up.

Time to pull out! We "bend some rail" as the stub turnouts are aligned to the steaming track, the throttle is advanced and ***TRUDY*** pulls out of the siding onto the mainline, steam and smoke pouring from the stack.

It's as easy as that - and for the next 25 or 30 minutes we can either set the throttle and watch steam in action on the Silo Falls Scenic Railway (or whichever railway we might be visiting), or we can make some switching moves (easy to do with R/C), or we can do photo runby's for the camera and camcorder crews. The Fowler is equally comfortable performing any of these tasks.

She'll pull a very hefty train with ease (23 2-truck cars up a 2.5% grade on the Coalport Railway last year) or chuff sedately along with one or two open excursion coaches. Plenty of power, but always very mellow and manageable.

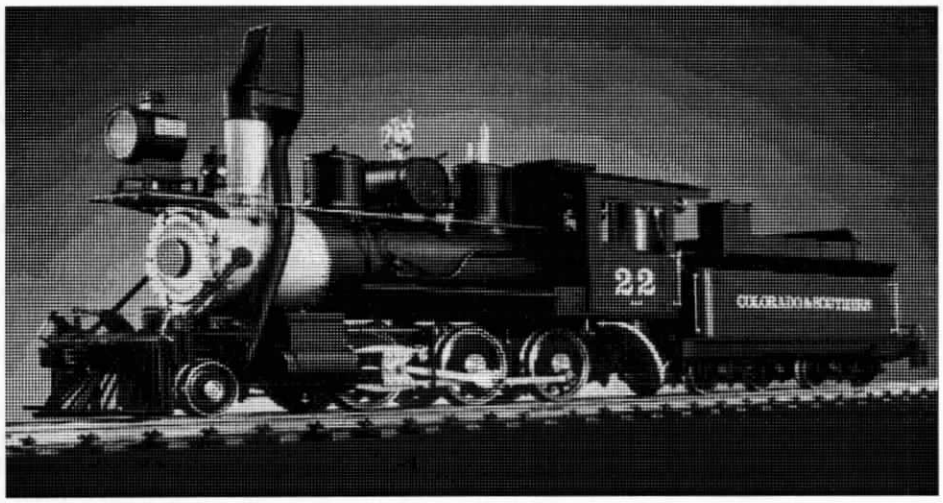
The only changes I've made to the stock locomotive were to remove the English-style center buffer coupler and add wooden buffer beams (with Kadee gauge 1 knuckle couplers fitted) to the front of the loco and the rear of the tender; and fitting a Deans vertical whip antenna to the tender to improve radio reception, as described in the R/C article in issue #5.

Maintenance consists of wiping down after a run, keeping the moving parts oiled, cleaning the accumulated grunge off of the wheels now and then, changing the batteries in the R/C unit a couple of times a year - and that's all there is to it. Who <u>are</u> these people that keep saying that steam engines are complicated and require a lot of time, expense, effort and a degree in mechanical engineering? Must be the people building and selling electric trains!

If it sounds like I've grown fond of our Roundhouse Fowler - I have! Stumpy Stone and Jim Petropulos have me thinking about adding a few additional details to give it more of a backwoodsy, American narrow gauge look, but other than that I wouldn't change a thing. I expect that ***TRUDY*** will be faithfully working on the SFSR for many years to come.

Steam in the Rockies!

Colorado Narrow Gauge by Aster



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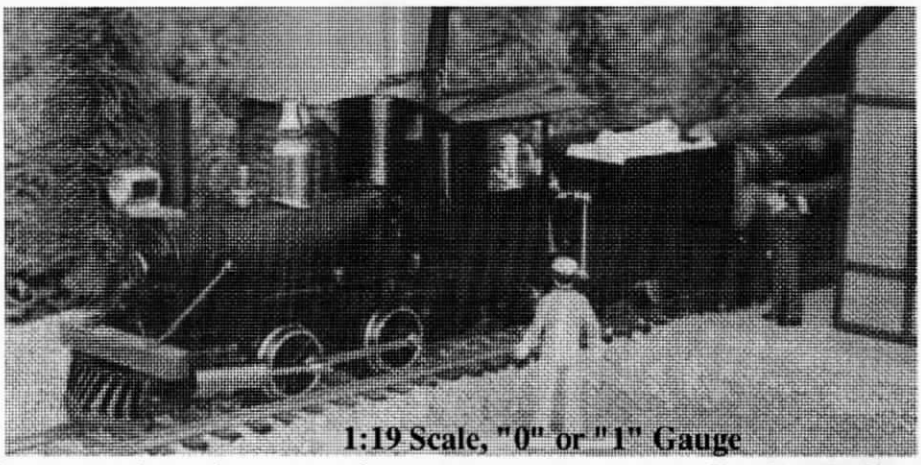

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Americanizing the Roundhouse Fowler

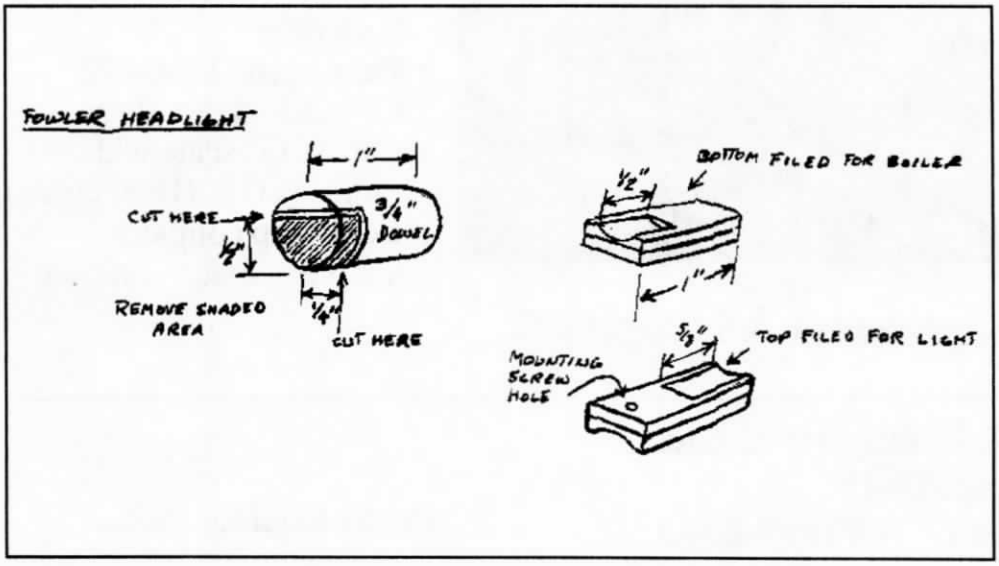
by Stumpy Stone

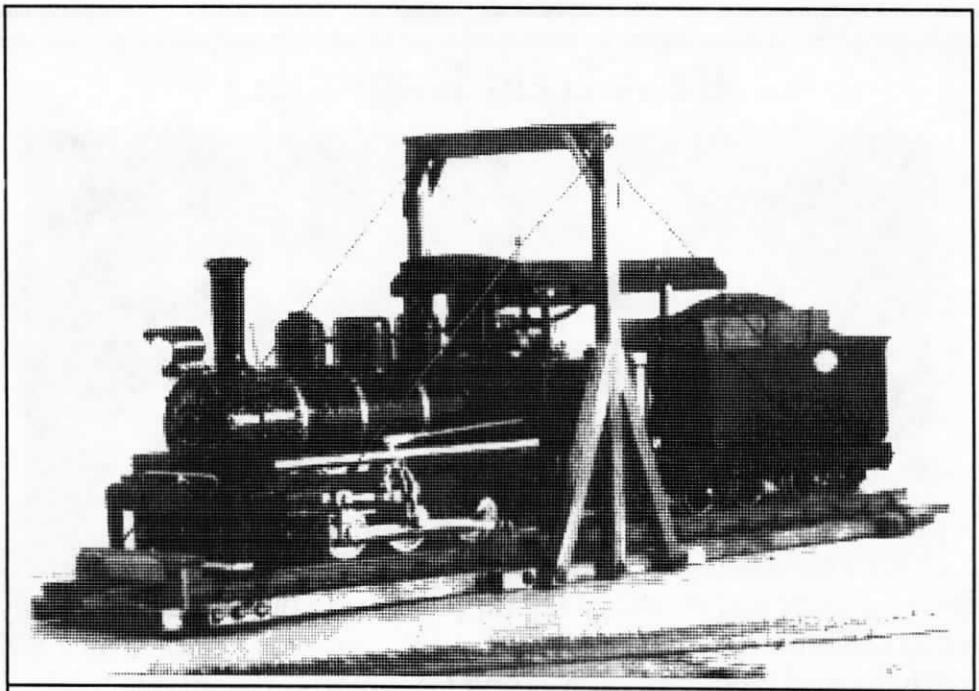
Part One - That Headlight Must Go!

Having decided to try live steam locomotives after years of wanting one, I threw my credit card into terror by ordering a Roundhouse Fowler plantation locomotive from Railway Garden Ltd. in Cambria, California. The reason I picked this particular locomotive was that it looked closest to an American type of all the Roundhouse products. I had also considered a Lindsay Shay, but I'm impatient and didn't want to wait for my first real steam loco.

When the Fowler first arrived, I was like a kid with a new toy. Well, I guess I was an old kid with a new toy! I even ran it in temperatures as low as 24° F (it arrived in the middle of winter).

However, the longer I looked at it, the more it needed something to make it look more American. Something had to be done, but it couldn't be anything that would ruin the new locomotive. I began the modification you'll read about in this series with the rule that no permanent changes to the original locomotive would be allowed. No drilling, cutting, painting, etc.





Stumpy's Americanized Fowler on its classy gallows turntable display stand/carrier. His headlight modification is clearly seen in this photo. Compare it to the stock item shown in the photo on page 21.

Photo by Stumpy Stone

The first thing I did was change the headlight. This is the simplest change to make because the original headlight is held to the top of the smokebox with a single screw.

The new headlight and all other modifications were made of wood. Plastic won't work for obvious reasons, and metal is harder to work if you don't have the special equipment. The new headlight and bracket were made from a 3/4" dowel and two 1" long pieces of 1/8" x 1/2" stripwood.

The 3/4" dowel is cut 1" long to start. Then cut a section 1/4" back from one end and about 1/2" up from the bottom. This will give the appearance of a headlight visor. File or carve out the visor area to give a rounder appearance. A Dremel tool with a sanding drum works great for this. As an alternative you could omit the visor, or to save this work altogether you could buy a headlight casting from one of the various detail parts people. *(Trackside Details has some nice brass headlight castings - ed.)*

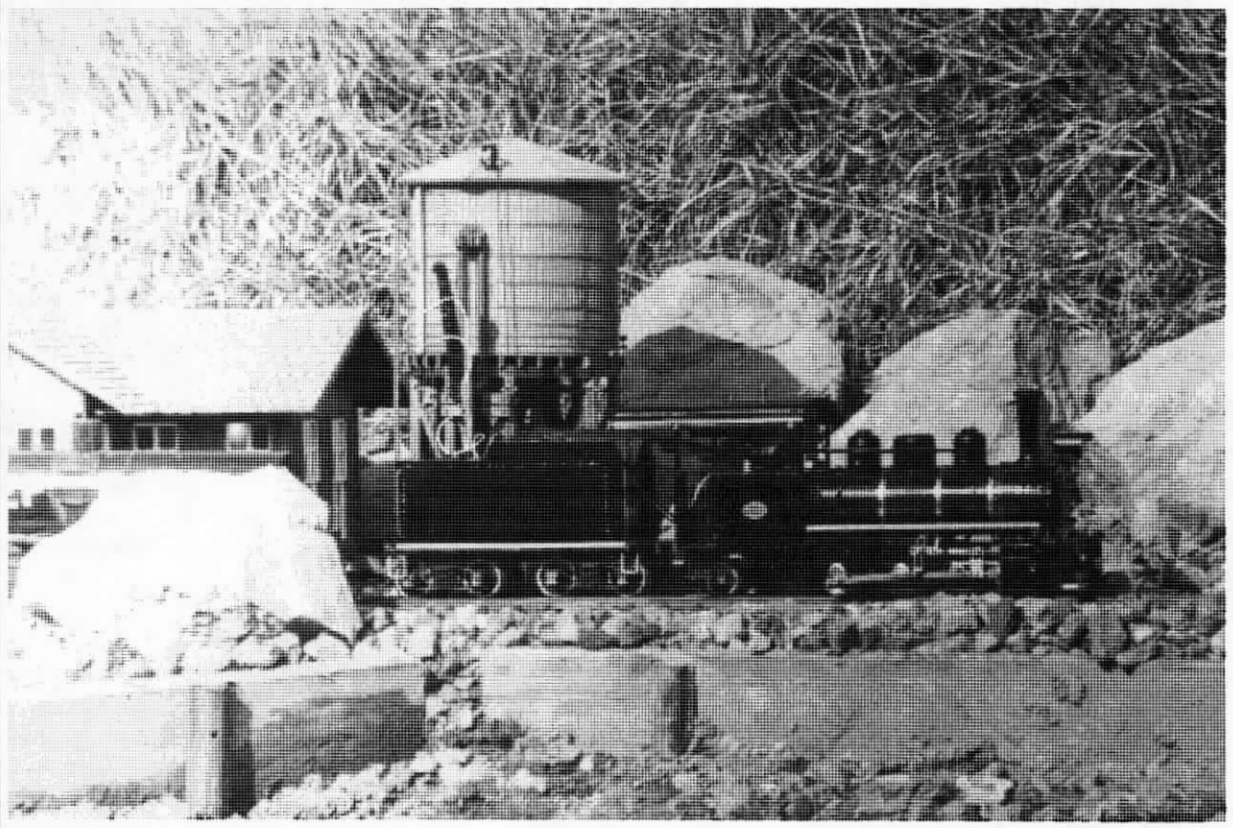
The stripwood pieces for the headlight bracket were first glued together back to back for strength. Then a rounded area was filed 1/2" long from one end on one side to match the curvature of the boiler. Flipping the piece over, a 5/8" rounded area was filed out for the headlight to fit into. A mounting hole was drilled next at the boiler end of the bracket. This is a

1/8" hole, but I started by drilling a 1/16" pilot hole in the center of the piece 1/4" from the end. Drilling this part must be done carefully so as not to split the wood. I also countersunk this hole slightly with a 1/4" drill so the screw head would fit down into the part.

Now the headlight can be glued to the bracket. Be sure to get the visor straight and on top!

I painted the finished unit with three coats of Scalecoat Loco Black - except the "lens" area, which was done with two coats of Reefer White. The whole thing was then coated with Thompson's Water Seal™. I used white glue throughout all the modifications as it is easy to work with and stands up to outdoor use if protected with paint. I have used it successfully on structures which remain outdoors from April through October, so it will work just fine in this application.

That's it for part one - next time we'll Americanize the pilot.



Right: Stumpy Stone's Americanized Fowler stops for water at a lonely tank high in the mountains on the Rock Ridge Route.

Photo by Stumpy Stone

Left: After converting their new Fowler locomotive from coal burner to wood burner, the crew on Jim Petropulos' Usina Tiuma Railway makes a startling discovery. Cutting and loading enough wood to keep her in steam is a lot more work than they had planned on!

Photo by Jim Petropulos

Ask Dr. Steam

In each issue, depending on material received, Dr. Steam will answer reader's questions pertaining to the purchase, care and feeding of small-scale live steam engines. Just mail your question to Dr. Steam, % Steam in the Garden magazine, P.O. Box 335, Newark Valley, NY 13811.

Dear Dr. Steam,

My Bassett-Lowke Super Enterprise alcohol burner has been repaired and modified many times. On the last repair for a pinhole leak around the copper nipples, I removed the one that had been soldered off (a mistake, maybe?).

Now upon opening the valve, alcohol flows okay in the burner reservoir. Preheat wick is lit - okay. After a short while the main burner fires up and continues for a few minutes. At this time air bubbles can be seen in the plastic supply and return tubing, indicating (maybe) an air lock. The supply tank is very warm to hot.

An observer suggested simplifying everything to a single feed like a Mamod. This was done - alcohol flooded right out of the burner holes - fire - PANIC - the house was saved - obviously not the way to go.

In addition to the pre-heat wick, asbestos packing is in the base and follows up through the column to the main burner. How should this type burner be operated? Or should I bag the lot and put in a new butane burner?

Please abandon research on long-ago cheapies and abandon boiler design - let them build per plan while you help an immobile 0 gauger in the Pacific Northwest!

John Martin
Bellingham, Washington

We passed this question on to Marc Horovitz.

Dear John,

I don't have any pat answers on your problems with the Bassett-Lowke alcohol burner, however, do not replace it with a butane burner. the boiler is soft soldered, and a butane burner puts out way too much heat for it. You might consider building a standard wick-type meths burner. I did this for my own Super Enterprise, and it works just fine.

You said there is an alcohol tank in the tender. This is an add-on. The original carried all the meths in the engine, beneath the footplate. You didn't mention whether or not the tank is above the burner level. If it is, that would certainly account for the overflow when using a single supply tube. If the alcohol level is below the burner level, and there is a vent in the tender tank, the overflow should not occur.

Your suggestion of a vapor lock may be accurate. If the burner gets hot enough, the alcohol could vaporize in the line, causing a bubble. The two-tube supply/return system has me a little baffled.

The pre-heat wick should be trimmed very short - about to the top of the wick tube. the larger wick inside the riser tube should extend from the sump up to about the bottom of the burner.

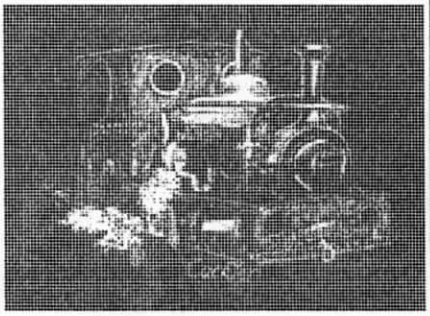
A vaporizing burner is a touchy thing under the best of circumstances. It works well indoors with no wind, but outdoors it must be used on an extremely still, warm day. My personal recommendation (without actually seeing the burner) would be to build a new one with wicks, making sure that the supply tank is below the burner level, or to employ a reliable chicken-feed system in the tender. Sorry I can't give you a more definitive answer.

Marc

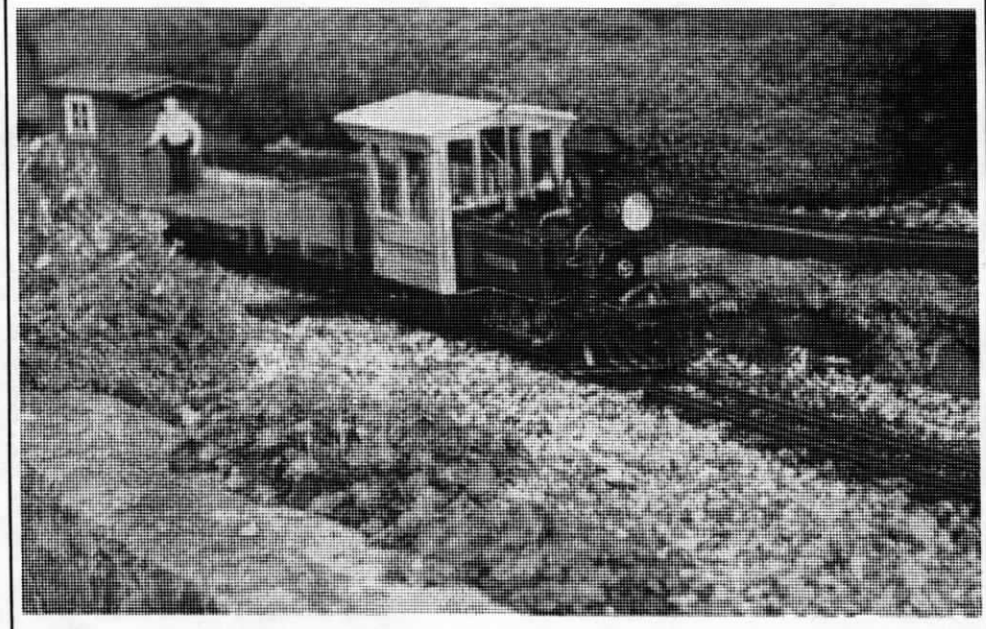
NOTE FROM PETER JONES:

Does any USA reader collect railway tickets? It's a small weakness of mine, and I'm always looking for exchanges. The address, as ever, is:

Peter Jones
Rheingold,
Simpson Cross,
Haverfordwest,
Dyfed SA62 6ER
United Kingdom



Below: A really interesting Mamod conversion by Eric Lloyd of Wales. 0-6-0, alcohol fired, radio controlled. Shown here hard at work on the Lloyd County Railway.
Photo by Eric Lloyd



The OBR Steamup

by Marc Horovitz

Denver - March 24, 1991

Springtime in the Rockies can be very unpredictable, so it was with a certain amount of trepidation that I scheduled a steamup for Sunday, March 24th. On the other hand, we hoped to put our house on the market soon, and there might not be another good opportunity. So I pressed bravely forward and called a few people I knew in the Denver area who owned steam locomotives.

As it turned out, the weather was brilliant -- a warm spring day with a cloudless sky. I spent the morning raking leaves (nine bags of them) left over from last fall. After that it was time to have a look at the railway to see if any major repairs were in order. Fortunately the winter had been kind to the line, and there was little to do aside from trimming back a few dead plants, reballasting one or two small areas, and picking the rocks out from between the points. The lift-out bridges were secured with clamp-on rail joiners, the rails were brushed off (part of the make-ready ritual) and the line was ready for action.

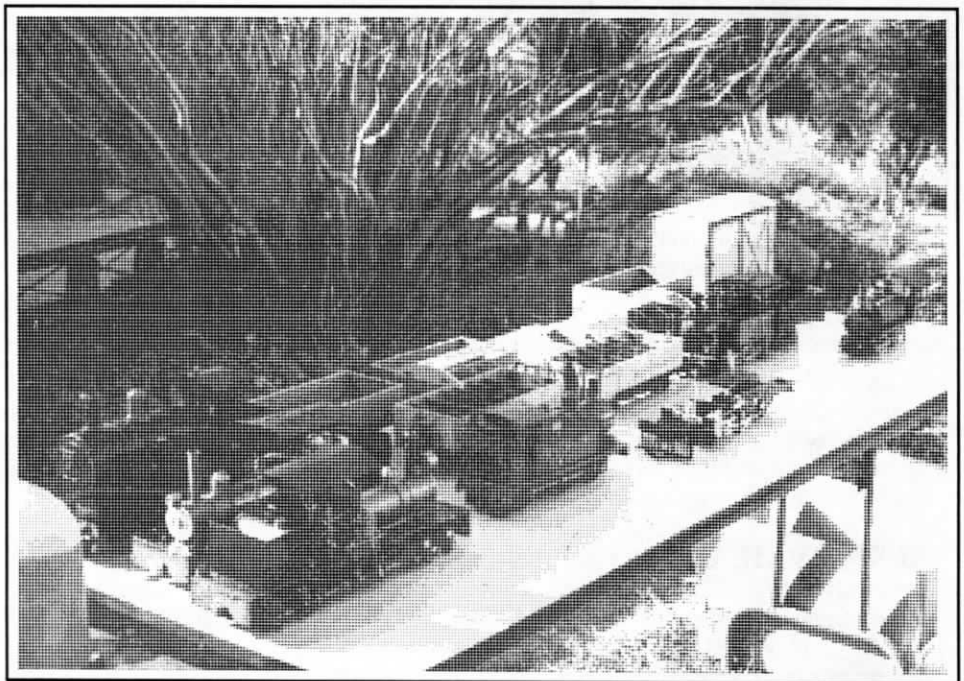
The Ogden Botanical Railway is a relatively short line -- 104' of dual-gauge track (0 and 1). It was built as level as possible, and when it was surveyed upon completion, there was found to be only 1/4" of elevation over the entire line. Since that time it has settled a bit, and there are one or two short, shallow grades that locomotives must contend with.

I chose three engines to run at the steamup: the Aster GER, written about in the last issue of SitG; the little de Winton found elsewhere in this issue; and a new (to me) engine designed by the legendary LBSC in 1930 and well-built by some anonymous soul. SMALL BASS, as it is called, is the biggest gauge 1 0-4-0 I've ever seen. It was built to a scale of around 7/8" to the foot, and is exceptionally heavy. It steams on 60 pounds pressure, and is quite a good runner. It had some problems, however, with the springing, so I removed the springs and replaced them with blocks. I decided to give the loco a run before everyone came, just to make sure it was in good operating condition. This turned out to be a good idea, as one of the former spring hangers extended below the flange level of the wheel, and it broke off when it fouled a point. I didn't have time to mend the problem, so the engine was retired for the day.

By 2:30 we had a good crowd, with several locomotive makers represented and one -- Larry Lindsay -- in attendance. In addition to the engines mentioned above, there were three Lindsay Shays, four or so Aster/LGB Frank S.'s, Dick Schafer's Roundhouse Old Colonial Antonio Vivaldi, two Creekside Baldwins and an Aster Climax.

Good runs were had by most of the locomotives, though there were one or two mishaps. The Climax's fire evidently flashed into the smokebox because, after an otherwise very good run under R/C, the smokebox door melted and fell off. The engine was withdrawn. When firing up my Aster GER, the fire flashed back to the tank while I was holding the loco, resulting in a little burned knuckle-hair. One of the Creekside engines had a fire, too, which resulted in the cab roof coming unsoldered. Five minutes work with the torch fixed that one. But these were the exceptions, not the rule. Lindsay Shays puffed endlessly around, the Frank S. engines put on a uniformly good performance, and Antonio Vivaldi was up to its usual high standard of operation. Even the GER engine, once the fire had been dealt with, ran strongly for a good long while.

Barb provided snacks and answered questions about the garden. Seating was arranged for easy viewing of the proceedings and the display table. Around 5:30 the last fire was dropped, the area was cleaned up, and the last straggler departed. As steamups go, this one was a dandy.



Above: A table full of goodies. This was the display table early in the afternoon. The chassis at front center position is the new Aster C&S Mogul, Marc's current project.

Photo by Marc Horovitz

Steamup!

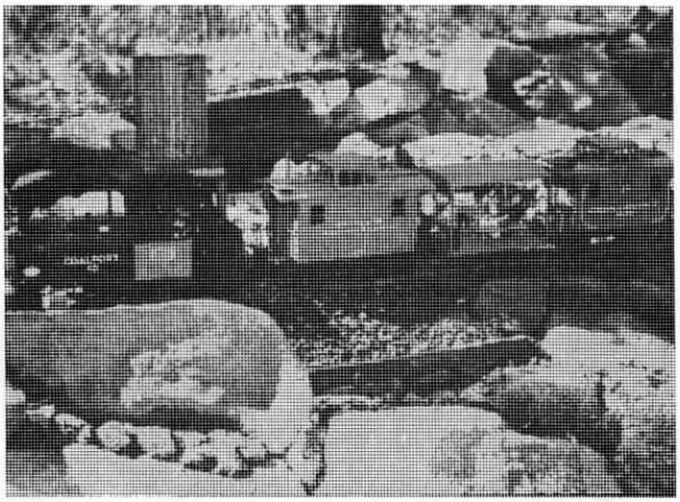
WHEN: May 26, 1991 (Memorial Day weekend)
WHERE: Jim Thorpe, Pennsylvania

Don't miss the **1st Annual SitG Steamup**, hosted by Bob & Judy Nowell on their Coalport Railroad in Jim Thorpe, Pennsylvania over Memorial Day weekend! It's shaping up to be most interesting, with lots of steam on display and in operation. Several dealers have indicated that they will be there to display their products and run some steam engines. Here's your chance to see steam locomotives in price ranges from Mamod to Aster and lots of others in between.

The Coalport RR consists of 300' of LGB track with LGB wide radius curves and turnouts. There is a steaming bay and storage tracks for trains waiting to roll. Bob has removed the 2.5% grade, so running manually controlled live steam will be a pleasure.

All live steam enthusiasts welcome - bring your engines to run or just come to watch. Send a SASE for more details and a map. Limited parking is available for motor homes, campers or trailers, so call Bob at (717) 325-8246 if you plan on bringing one and would like to park it at his place. Please - no calls after 9:00 p.m. Eastern time.

Bob Nowell
Woodside Drive
Jim Thorpe, PA 18229



ABOVE: A typically busy scene on the Coalport Railroad. ***MISS RANDI***, with **Judy's Lunch Wagon** and an excursion car full of happy tourists in tow, stops for water.

Photo by Bob Nowell

End of the Line

Exciting news just in from **Roger Loxley of Roundhouse Engineering** in England. Roundhouse will soon be releasing an American prototype - the **SR&RL #24**! This Baldwin 2-6-2 is their first venture into the American market and will be their most highly detailed locomotive to date. This nicely proportioned loco will be built to 1/2" scale and equipped with an internally gas-fired boiler, Walschaert's valve gear with added detail, working water tank in tender w/hand pump, water level gauge glass on backhead and choice of couplers. She'll be 28" long, 6.25" high, 4.75" wide and weigh in at 12.5#. Price will be £1294 for the manual version and £1378 for the R/C version, plus shipping.

If you think you can't live without one, you'd better get your reservation in now - I have a feeling that they'll be selling briskly and there may be a long wait (and higher prices) for those who procrastinate!

More good news is that Roundhouse isn't the only U.K. firm to be taking notice of the American market. Look for more and more American prototype live steam locomotives to be appearing on the scene in the next year or so, with more to follow if these first ones are a commercial success.

We've already made arrangements with **Richard Longley** of **Brandbright** for a review of the new SR&RL loco. We hope it will be here in time for inclusion in #7, but if it doesn't arrive in time, we have substitutes waiting in the wings.

If you live close enough to make the trip, don't miss out on the STEAMUP over Memorial Day weekend. Bob and Judy Nowell are going all out to host a great event. Check out the announcement on this page, then drop Bob a note or give him a call.

Another date not to miss is the National Garden Railway Convention in Cincinnati on June 27-30. This year there will be the traditional steamup on Sunday morning - and in addition, live steam will be running daily. Good planning, Cincinnati! Look for their announcement on page 20, then write for more info and a reservation. By the way, contrary to a rumor that has been circulating, the Drawbridge Inn is NOT out of rooms!

Looks like it's time to drop the fire, so until next time - keep your wicks dry and your crown sheet wet.

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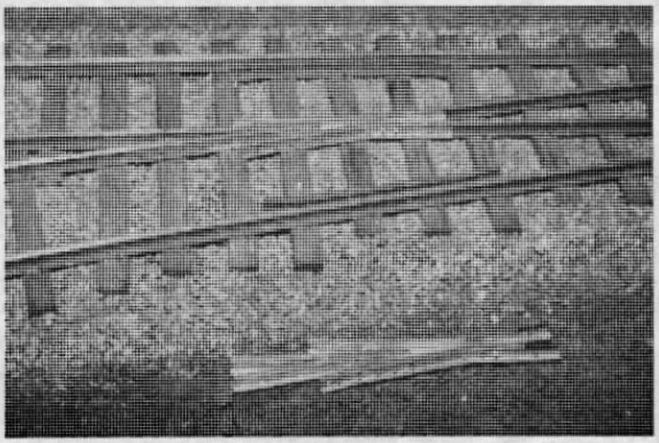
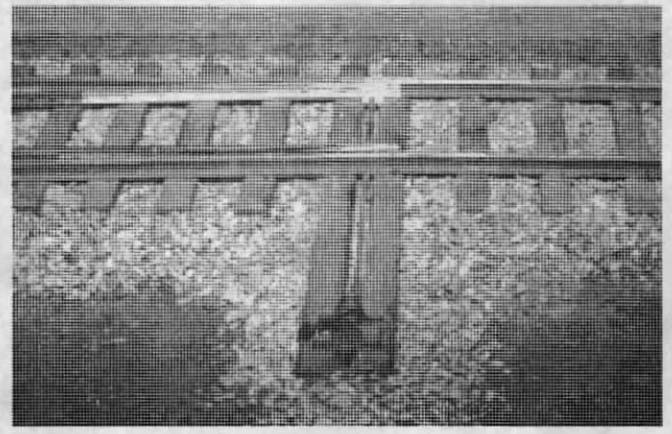


#6 Frog



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2503	Code 250 Aluminum Flextrack - 3' section	9.00
2501	Cast Dow Rovel Ties - (use 6 per foot)	.40
CMLT	Complete turnout, left - code 250 rail on redwood ties	60.00
CMRT	Complete turnout, right - code 250 rail on redwood ties	60.00
TF6	Nickel Silver Frog - #6	15.00
PTLR	Nickel Silver Point Set	15.00
SSRJ	Stainless Steel Rail Joiners - 10/pack	7.00
SAMP	Sample of Flextrack - postpaid	1.00

For more information write to:

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2200 Llagas Road
Morgan Hill, CA 95037

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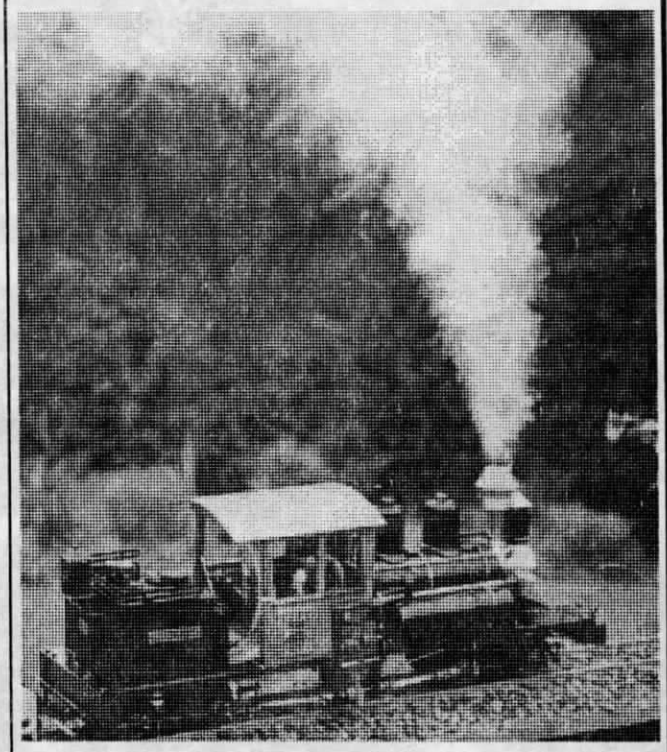

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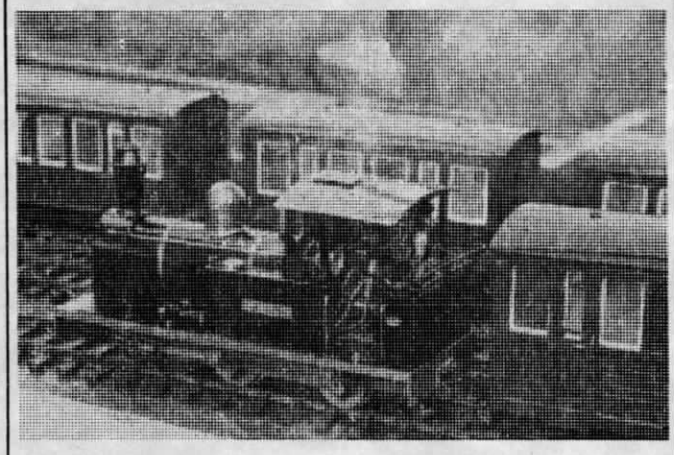

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