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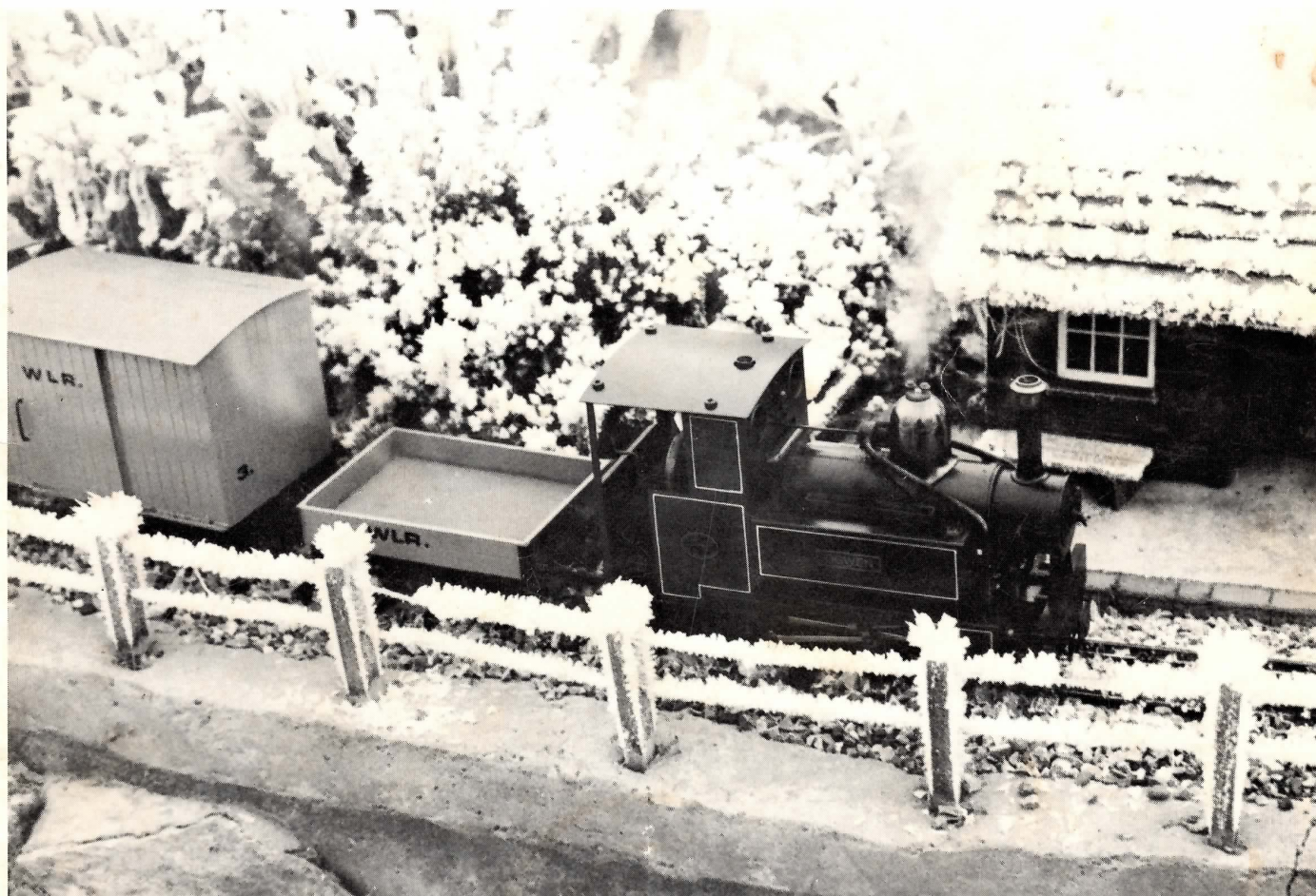
Steam in the Garden

Magazine

*Gather, friends, while we enquire,
into trains propelled by fire.....*

Volume Three Number Four

January/February 1993



INSIDE.....

Loco Review - Steamlines Moody River Shay

Crankpin Expounds on Tools For Your Workshop

Steamup Reports From Around the Globe

News, Photos, Opinion and Commentary on the Live Steam Scene

And Lots More.....

A CHANGE.....

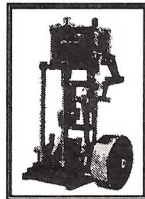
Maxwell Hemmens North America is no longer associated with the parent company. US customers will now have to directly contact Maxwell Hemmens in England for goods and services.

Any customers waiting for products, orders or refunds should refer their queries to the office in England.

*Model Steam Ships will be carrying the entire **Cheddar Models** line of marine steam plants and boilers. These products are available for immediate delivery and are priced from \$635.00 for the Puffin twin cylinder marine plant to less than \$310.00 for the single cylinder Pipit plant. The plants are designed for hulls 48" to less than 18". All plants feature reliable single servo control, the twin cylinder models offer forward, stop and reverse on a single control armature. The Cheddar catalogue is available for \$5.00 from the address below.*

***A. J. Reeves**, the well known castings and fittings company is currently available through Model Steam Ships. Their 23rd edition catalogue, over 280 pages, is packed with castings kits, fittings, tools and plans for the serious model engineer. The range of products from A.J. Reeves is far too extensive to list in this advertisement. The Reeves catalogue is available for \$10.00 from Model Steam Ships.*

Both Cheddar Models and A.J. Reeves deliver within two weeks of order!



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ON THE COVER:

OGWEN blows off steam at the station on a very frosty winter morning on Bob Winkett's Wickham Light Railway in England. The station and rolling stock are all scratch built by Bob to 16mm (1:19) scale. Trackage is approximately 200 meters of gauge 0 (SM32).

Photo by Bob Winkett

HELP WANTED - ONLY STEAM LOVERS NEED APPLY

Another new year, complete with resolutions and new beginnings. We pause to reflect on where this publication has come from and where it's going. Lots of changes have taken place since our first issue less than four years ago, which was intended to be a basic source of information for small-scale live steam enthusiasts. That primary goal hasn't really changed, but nearly everything else has. Because of reader demand, we find ourselves getting more and more into the technical aspects of the hobby. The response to our series on machine tools for the home workshop has been terrific. Crankpin's columns have generated more mail and phone calls than any other single feature, and you'll see lots more from that humble, shy and retiring soul in upcoming issues.

We deeply appreciate those of you who have taken the time and trouble to share your knowledge, skills, thoughts and ideas with the rest of us. Without your contributions, this publication could not exist!

We know that there is a vast, untapped pool of knowledge and talent out there amongst our readers, and so now we issue a plea to those of you that haven't shared with your kindred spirits through the pages of SitG. We need more articles - particularly technical and construction articles. Our readers want more "How To Do It" articles, so those of you that are building your own live steam engines - or modifying commercial engines to look better or perform better - or building a widget to enhance the enjoyment of our hobby - why not take the time to write about it, sketch it out, photograph it...then send it in to us and we'll take it from there.

You don't need to be a professional writer, draftsman or photographer. Harry Wade will turn your rough sketches into publication-quality drawings. My job is to edit your words (if necessary - often it isn't) to make the article as readable as possible. As for the photos - we'd love to have all photos submitted as large format, sharp, contrasty black & whites, but we'll work with whatever you send us. We have a new printer as of this issue, and he has been involved in b&w photography for over 20 years. He

promises to do all he can to make your photos look great in the magazine.

Now.....you say you'd like to contribute something but don't have the skills to build your own locomotive. That's okay! If we could all do it by ourselves we wouldn't need to read about it in SitG. So write a letter, telling us about your latest project, or how an article or photo in SitG inspired you to do something that has improved your enjoyment of the hobby. Or attend a steamup and send in some photos and a bit of information about it. Everyone has something to contribute, and that's what makes this hobby so great - all those individuals that are willing and anxious to share their ideas and accomplishments with the rest of us.

Okay, now that everyone is pumped up and has made a New Year's Resolution to send something in to SitG this year.....let's get on with it.

Happy Steaming!

Bob

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Steam in the Garden Magazine

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Steam in the Garden Magazine is published bimonthly for \$18.00 (\$24.00 Canadian, \$26.50 foreign) per year (6 issues) by Steamchest Publications. All rights reserved. The contents of this publication may not be reproduced in whole or in part by any means without the express written consent of the publisher.

USA and Canadian subscriptions should be sent to **Steam in the Garden Magazine, P.O. Box 335, Newark Valley, NY 13811.**

Foreign subscriptions should be sent to one of our agents in the U.K.

Salem Steam Models, Brynglas, Salem, Llandeilo, Dyfed SA19 7HD, U.K.

or

Brandbright Ltd., The Old School, Cromer Road, Bodham, Near Holt, Norfolk NR25 6QG, U.K. - phone 026-370-424.

Items for review should be mailed to our domestic address or sent via UPS to 6629 Route 38, Newark Valley, NY 13811.

Phone us at 607-642-8119 evenings or weekends - before 10 p.m. Eastern time, please.



R P O Mailbag

Letters from all over

Letters from readers are welcomed and encouraged. Offer advice, encouragement, suggestions, constructive criticism, tell us about your current project (and don't forget the photos!) - or just share live steam experiences. But please keep it to a reasonable length of we'll be forced to convert your letter to a full-length article! Send any contributions to this department to: SitG, Dept. RPO, P.O. Box 335, Newark Valley, NY 13811.

Letters From Uncle Dick: Lazy Man's Railroadin'

Eureka, California

Dear Cousins,

This here piece is addressed to them what calls themselves garden steamers, but ain't got no track laid yet. Now I want y'all to understand, us'uns is sick and tired of listenin' to y'all mullygrubbin'. If'n you ain't too persnickety, all steam in the garden really needs is a steam engine, some track and a few plants.

Now take my case. It ain't like I ain't got enuff acreage, in fact I got too much. This tends to short out my brain and send me back to all the musty old issues of SitG and GR. There are jest too many ways to do it and too much work involved. Now some of you are goin' to say, "Hale, my problem ain't what t' do with the north 40, hits how t' git a north 40 in the first place!" Y'all lissen up close, cuz this is fer all you armchair garden steamers.

The main thing about one of these here major projects is, you either do it all at once or y'work up on it a little bit at a time. Guess which approach y'all are candidates fer?

If you can live with a Shay or an O-4-0, all you need is about 4'x8' of fireproof space, a loop of 2' radius track

and a live steamer. Some of y'all live in them there high rises, but I'll bet most of you have some kind of balcony, deck or patio - and you suburbanites have a section of driveway, carport or garage. So whut are y'all waitin' fer? Whut I did wuz to put a loop out on my deck, add a few potted plants (not including this writer!) and a Pola station. All I have to do is lean back in the rocker, open a cool drink, and with a fire in the Shay - I'm in business.

Fair Warning! I guarantee this will leave a trail of steam oil on whatever surface y'all lay your track. An' yore sweet wife will never let you forget it.

In my case, the potted petunies, marigolds and Mugo pines - plus the "cute" little steam engine - have fended off criticism so fer. Meanwhile, plans are going forward for the "real-live" version of the Mad River Shortline, and I'm gittin' the lokie broke in at the same time. Y'all git the idee. Until next time, keep sum water in yer boiler!

Adios,
Uncle Dick

Richardson, Texas

Dear Ron,

The article, "WVRR's SHAY #5: Confessions of a Beginning Scratch Builder", really caught my eye. I wrote you earlier for information on building a Shay and was very pleased with the recommendation you gave me. I have almost memorized Mr. Hirakao's book, but not feeling myself to be capable of doing the work required, have been reluctant to start on so involved a task - regardless of how much I would like.

Now Mr. DiSarro comes up with his article and I am back to dreaming again. I have alibied by telling myself I'm too old to start on such an involved project, but in reality I suppose I am really too lazy to scratch, build that is, a steam Shay. Mr. DiSarro sure seems to have

come up with some unique ideas and a fine looking Shay as well. I think he should put his plans and instructions into book form for some of us less talented enthusiasts to try our hands at building. I'm looking forward to hearing more about how it performs.

Thanks for SitG - I enjoy it from cover to cover. Hope to see you in Mississippi in January.

Wm. Blair

Sublimity, Oregon

Dear Ron,

I am really enjoying the magazine.....keep up the good work. For me, it seems to get better with every issue! I am new to garden rail, so have a lot to learn. I wish there were more sources here in the States, and of course, more engine choices of American design. Too bad that Little Engines or some outfit like that couldn't come up with a small 4-4-0, 2-6-0, or a Shay or some other small narrow gauge engine. Hopefully the word is spreading and it will grow.....

Happy Holidays to you and your Faithful Assistant,

George T. Lewis

Points Arising.....

Haverfordwest, Wales, U.K.

Dear Sir,

In a recent SitG, Murray Wilson expressed some concern about my VSE gear. Perhaps I could put his mind at ease by saying that his fears are groundless. I'm not quite sure how they arose, but if he would like to write to me, I'll be happy to reply. In the meantime, readers can note that the geometry of my

gear is identical to 50% of the function of Walscharts gear. There is a theoretical error in the mathematics of the efficiency of Walscharts (and my) gear, but in practice it is so miniscule as to leave the locomotives built which used it, unhindered. In model form the loss of efficiency is microscopic; so small in fact as to be unmeasurable other than as decimal places on a calculator.

I was pleased to see the lovely Terra-Cotta English cottage reviewed. They are, as intimated, extremely durable. Their only enemy is when absorbed water freezes and they can crack. Keeping them painted will prevent the risk of this. I know of one terra cotta building which has decorated a garden since 1825 and is still going strong.

One Mamod mod that can be added to Rick Gross' list is to look at the semi-circular chamber ends on the reversing block and file them so that they come to a sharp point rather than a blunt end (some people sharpen the ends by filling in part of the bluntness with solder, if you see what I mean). The effect is to give a finer introduction of steam and thus better and slower slow speed control. This is one of Deryck Goodall's masterly innovations and I merely pass it on.

My thanks to the large number of people who wrote in confirming the fact that UK methylated spirit generates less steam than methanol. I claim no originality for this information. It has been known about by practical garden steamers for many a year.

Finally, Rick Gross mentioned his chum who built a working steam engine in N scale. This is very commendable and it would be nice if we could get to hear details about it. The smallest I ever went was 4mm scale. But readers in the USA may not be aware of the famous works of the late Alan Sherwood in Australia. This has been documented in older magazines. He built a working steam loco in 1:240 scale. Although outside the scope of this magazine, perhaps I could also

mention that he built a working electric loco to 1:480 size.

I trust that this may be of interest.

Yours sincerely,
Peter Jones

Niantic, Connecticut

Dear Ron,

Regarding your remarks in End of the Line - SitG Vol. 3, #3, I wish to share a somewhat similar situation and a favorable solution.

There was a time I purchased Gauge 1 rolling stock from Mr. M. J. R. Mays of Premier Gauge Railways in Dorset, England. He advised insured airmail as the best possible means of delivery. What few pieces I bought did indeed arrive in good time and free of damage. Then came the exception, an Aster "Ouest". This engine appeared on my doorstep severely battered with a chimney trained aft, her tanks and cabin skewed far right and the coal bin knocked cockeyed.

I documented the carnage with numerous Polaroid photos, then took engine and package remains to my local post office for their inspection. Damage reports were made out on the spot. Early the next morning I spoke with Mike

Mays via trans-Atlantic phone and he began to work things out on his end. Suffice to say, in good season (I've forgotten the actual time - perhaps four weeks) I received replacement parts, albeit second-hand. These were, however, excellent in all respects. The rebuilt "Ouest" and I thereafter enjoyed many hours of steaming.

It bears repeating, "buy only from dealers with a good reputation and who will stand behind the products they sell". I know, that system works!

I enjoy SitG, believe it is a good magazine and helpful to the hobby we enjoy. Holiday greetings to you and yours and may the New Year be prosperous.

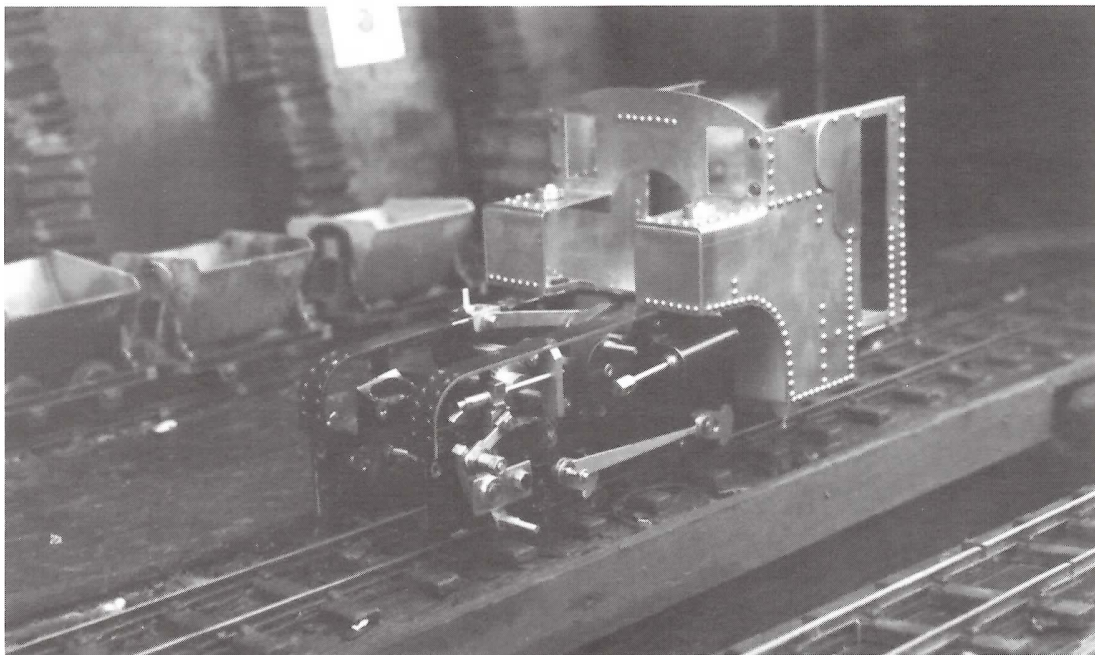
Sincerely,
Warren G. Young

Mountain View, California

Ron,

I like the hi-res format! Looking forward to the convention (1993 National Garden Railway Convention, Santa Clara, California) in my back yard. How about a series on a simple steam engine? Keep the the GREAT WORK!

Russ Sansom



Visiting loco on Peter Jones' Compton Down Railway. A partially built rack loco, built by Hugh Eastwood in Cardiff, U.K., utilizing oscillating cylinder drive.

Photo by Peter Jones

Fan Mail For Crankpin

Norristown, Pennsylvania

Dear Ron,

I wanted to let you know how much I've been enjoying Crankpin's contributions. I followed his guidance on drill presses and treated myself to a Delta 11-950 as a Christmas present. What a delightful machine! If you can imagine my spending Christmas day drilling holes through scrap steel for enjoyment, then you can understand the torment of drilling with my old powerdrill-in-a-drillstand all these years. Thanks, Crankpin!

I also enjoyed Peter Jones' introduction to the Hobbymat D65 lathe. Unfortunately, it'll probably have to be a small lathe or no lathe for me. Perhaps Crankpin or Peter would consider an article on the pros/cons of financially attainable 3" lathes vs. more substantial 5" lathes.

Sincerely,
Rob Kuhlman

Check out Peter Jones' review of the Miniturn 200 in this issue, Rob. Looks like a quality tool at a reasonable price. You might also look at the TAIG, which

has a good reputation for quality at a modest price. Our local hobby shop just sold a brand new TAIG mini-lathe, complete and ready to start making chips, for \$250. That should fit into most modeler's budgets. - ed.

Carrollton, Texas

Dear Ron,

I have received the first two issues of my subscription and like what I see. Please send all back issues, check is enclosed. Let me make one suggestion for "The Fitter's Bench". It would be nice to have one or more articles about lathes and the needed lathe tools and accessories to scratch build - or at least partially build - a live steam locomotive. There are several small metal lathes (as Peter Jones pointed out) that are no more expensive than just one live steam locomotive. Thank you for your time and your magazine.

Sincerely,
Daniel R. Fuller

This is a subject which has generated lots of interest, Daniel. We are working on it (see Peter Jones' review of the Miniturn 200 in this issue) and you will

see lots more coverage in upcoming issues. - ed.

Bellevue, Washington

Dear Ron,

Enclosed is a photo of my Heisler. It has Mamod cylinders with Mike Chaney O-rings, MSR spoke wheels, gears from Model Rectifier Co., and Trackside Details and Ozark Miniatures detail parts. Frames are scale brass I-beam from Coles Power Models and everything else is scratch built. She runs okay, but is a little short of breath. I'm now building another for a friend with a combination pot/Smithies boiler, which should steam better.

Jim Montgomery

Nice job, Jim! How about a construction article for SitG, so all those other guys and gals out there can see how you did it (and maybe get started on one of their own)? - ed.

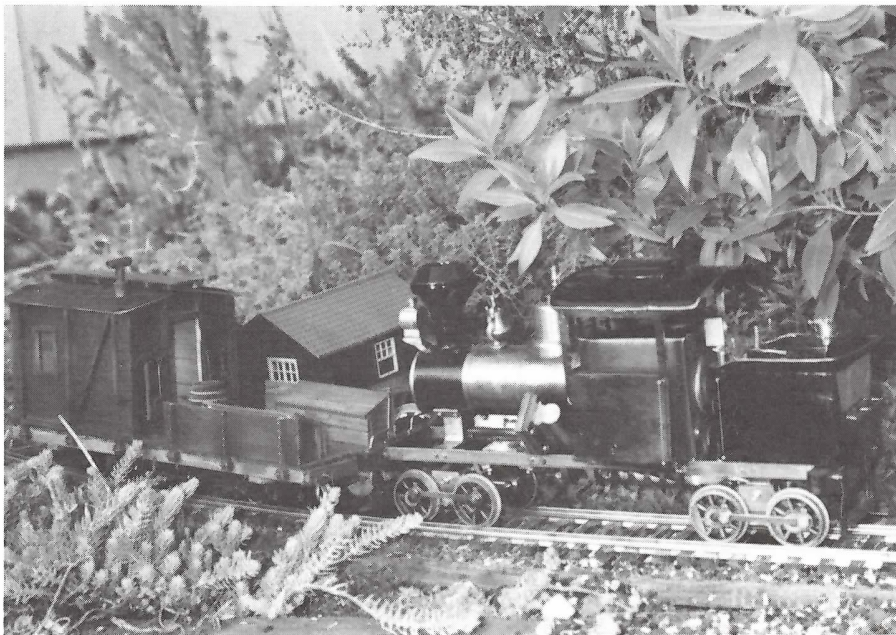
Hayward, California

Dear Sir,

I enjoy your magazine very much, although there isn't any information on the construction of boilers and propane and alcohol firing of them. I would appreciate it if you could possibly print some information and a couple of drawings on the subject.

Richard L. Rose

We've had plenty of requests for more coverage on this subject, Richard, but we can't print it if we don't have it. We have promises from a qualified boiler/burner designer and builder for an article at some unspecified future date - but if anyone else out there is qualified and would like to contribute an article on this subject (or any other steam related topic), preferably with drawings and/or photos, please do not hesitate to contact us. - ed.



Jim Montgomery's scratch-built model of a 14 ton Heisler - 1895 vintage.

Photo by Jim Montgomery



NEW for '93 from Salem Steam Models

For 1992 we are introducing a range of low cost live steam locos in 16mm & G scales. Based on an externally fired, silver soldered boiler with a Goodall water filler valve and a 20 psi safety valve, the locos are powered by twin double-acting oscillating cylinders fitted with O-rings for maximum performance and reliability. The variable gauge wheels are mounted between the frames, as is a rotary reversing valve operated from an unobtrusive front-mounted lever. The near-silent burner is fired by butane gas. Typical narrow gauge bodywork is fitted, with the side tanks and cab having embossed rivet detail. Alternative cab styles are available as well as varying levels of detailing - for example, the provision of extra brass handrails, sandboxes, etc. The wheels can be easily adjusted to either 32mm (gauge 0) or 45mm (gauge 1). Dimensions will vary slightly, depending on specifications, but locos will be approximately 11" in length, 4-1/4" wide and 5-1/2" high, making them compatible with most other locos and rolling stock. Locomotives are finished in a semi-matt black with brass fittings. Prices are as low as we can reasonably make them - comparable to the cost of a fully reworked Mamod loco! There is no comparison to the Mamod in quality, however. Our locos have heavy brass frames, steel wheels and flycranks, the boiler heat shield is of stainless steel, a displacement lubricator is fitted as standard, etc.

PRICE LIST

Basic "River Class" Loco, butane gas fired £320.00

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Optional Equipment (at extra cost):

High Pressure Boiler with 40 psi safety valve £5.00

Longer Boiler (longer duration) - NOW STANDARD ON ALL LOCOS N/C

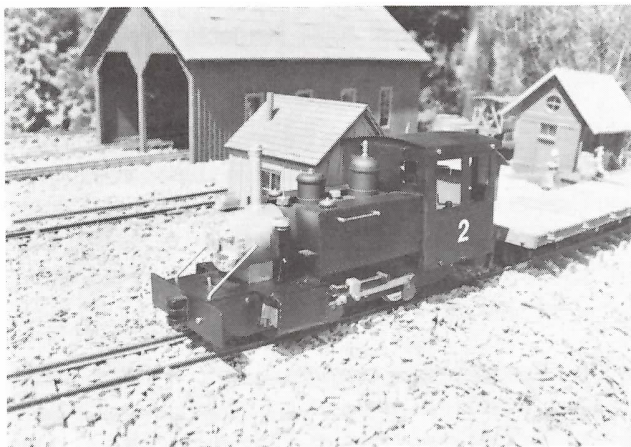
Separate Steam Regulator - NOW STANDARD ON ALL LOCOS N/C

Working headlight £10.00

Extra Detail Pack (Toolbox, sandbox, extra brass handrails) £15.00

Dummy Motion (Connecting rods, crossheads & slidebars) £20.00

Etched brass name and number plates (your choice of name, etc.) £5.00



Porter 0-4-0 sidetank loco by Salem Steam Models backs the local freight into the siding at Three Pines on the Silo Falls Scenic Railway.



SFSR #2 by SSM sits patiently on the yard track awaiting a turn on the main line.

Photos by Ron Brown

Manufactured by:
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United Kingdom

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What's New?

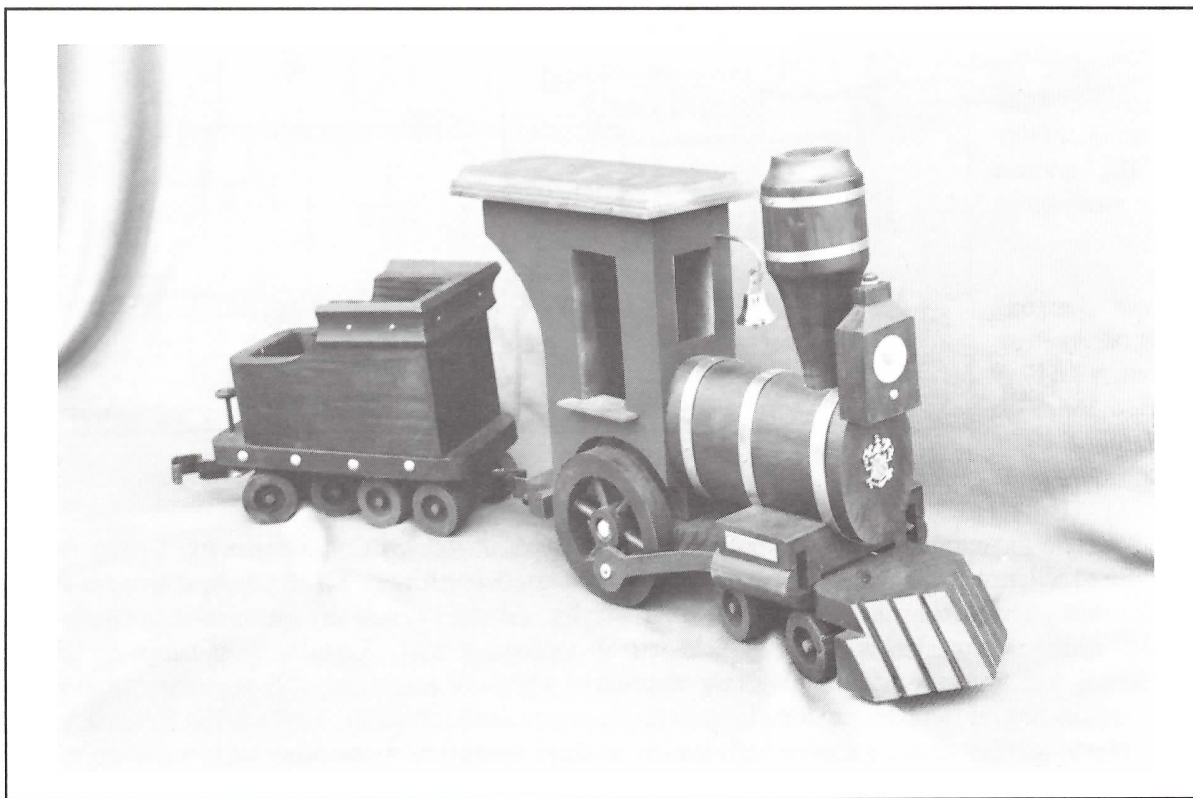
Trackside Details, 1331 Avalon Street, San Luis Obispo, CA 93405, has some great new castings! TD has long offered a very complete line of detail castings in white metal, brass and resin. Now they've come up with a whole bunch of new castings to dress up the LGB Porter, and many of them are just the thing for use on our live steam projects, too. I'm particularly impressed by the beautiful brass Porter builders plates (or shields), which are available in two styles, depending on the era in which your loco was built. Other interesting detail items include a Conductor's Passenger Safety Step, Waterbags for locos and tenders, Engineer's Oilcans, and Screw Jacks for locos, tenders, work-trains. Trackside Details also makes headlight brackets and headlights that are perfect for those Americanization projects on British or Welsh locomotives. I've used plenty of detail parts from Trackside, and they have always been of very high quality, with sharp details and nearly invisible mold parting lines. On the one occasion when a part I ordered (a white-metal toolbox) was somewhat misshapen, a replacement was sent out immediately with a note of apology. Pete Thorp at Trackside Details is one of us - a live steam enthusiast. Check out the Trackside Details line of detail parts today - send a LSSAE for a catalog.

Brandy Tools, available through Steamchest Publications, P.O. Box 335, Newark Valley, NY 13811, offers a small selection of very high quality tools for the machinist, hobbyist and model builder. All Made in the U.S.A. (a pleasant surprise in these days of tools made in Taiwan, Korea, India and everywhere else but the U.S.A.) and priced quite reasonably, the stars of this selection are a beautiful set of miniature vises in four different sizes and configurations. The jaws are made of solid brass and are guided by hardened and ground steel pins. A knurled steel screw with a black oxide non-rusting finish controls the position of the jaws. The jaws are accurately made to close without a gap, are reversible and also feature v-grooves for holding pins, etc. Jaw widths and openings vary from 5/16" to 1-1/2", depending on which specific vise you choose. Other useful items include a brass head hammer, an assortment of hex keys, a very nice small-sized tap wrench for taps up to #10, a couple of carbide scribes and a super sturdy and rigid little 4" steel scale with graduations in 1/8", 1/16", 1/32" and 1/64". All four vise configurations are priced at \$16.95 each, the tap wrench at \$3.95, steel scale at \$2.00, scribes at \$7.50 and \$3.50, the brass hammer at \$4.95 and the 6-piece hex key assortment (.028" - .125") at \$1.50. Postage and handling are extra. We feel that these tools are an excellent value for the money. For a flyer illustrating the different tools available and for more information, send a LSSAE to us at the address above.

Underground Railway Press, P.O. Box 11279, Burke, VA 22009-1279 has good news for scratch builders. They have just released their 1993 catalog of scale plans. Some of the publishers in this year's edition include Bordertown Publishing, Bridgeport Plan Service, C&S Connection, Colorado Central Productions, Coronado Scale Models, John T. Derr Plans, James Dunlop Productions, Manitoba Model Works, McKenzie Iron & Steel, Precision Scale Co., Lee Rainey Plans, Railway Plan Service, Simpson Model Products, Timberline Scale Drawings, David L. Waddington Plans and many more. Readers may obtain a copy by sending \$2.00 to the address above.

Finescale Engineering Co., Unit 10, Victoria Business Centre, Neilston Street, Leamington Spa, Warwickshire CV31 2AX - phone 011-44-926-335-123, have moved into their new facilities and are pleased to announce their schedule of steam locomotive production for 1993. In addition to the Cranmore Peckett "Gamecock" and Quarry Hunslet "Holy War" currently in production, Finescale will be bringing back their popular Glyn Valley Tramway Locomotive, "Sir Theodore" in 32-45 mm gauge, meths or gas firing and a full range of liveries. Priced at £490 and available in Spring 1993. Scheduled for delivery in Summer 1993 and priced at £590 is "Lillian", a Port Class Hunslet locomotive with more powerful cylinders and larger boiler and gas tank capacities than their Quarry Hunslet. Autumn 1993 will see production of "Dolgoch", a popular 32mm gauge Mac Muckley design with larger cylinders and gas firing, which has proven to be a very powerful small locomotive. "Dolgoch" will be priced at £799. Following "Dolgoch", the next scheduled offering from Finescale will be "Buthidaung", a Beyer Peacock Garratt 0-6-0 + 0-6-0 built in 1913 and used on the Buthidaung-Maungdan Tramway. This large loco will be available in both 32mm and

45mm gauge versions. The price will be announced at a later date. Finescale Engineering also offers a line of home-builder parts, such as boilers, burners, gas tanks, gas valves, domes, whistles, boiler filling systems and more. Write or call Tony Sant at Finescale Engineering for more information, or check with Brandbright or Railway Garden Ltd. Please mention that you saw it in SitG.

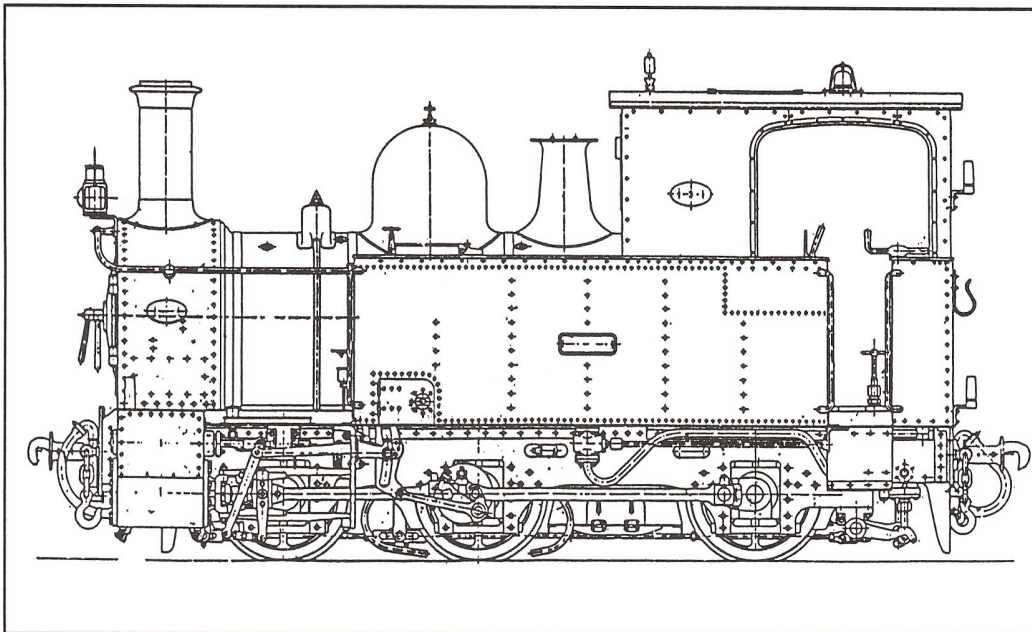


Dennis R. Brock, BROCKSHOP TOYS, 250 W. Vance St., Rawson, OH 45881 - phone 419-963-2191, is a fellow live steamer and builder of high quality, collectible wood and metal toys. All designed and built by Dennis, these great toys include (naturally!) steam engines, caboose, freight cars and passenger cars.....as well as fire engines (Gary Hall, this is for you!), trucks and other worthy subjects. When our overworked and underpaid Faithful Assistant saw the photo (above) of one of these beautiful toys, she had to have one! How could I refuse? A quick phone call to Dennis got me a bunch of information and an interesting chat. I was pleasantly surprised by the very reasonable price - but don't expect to get delivery on this kind of quality in a couple of days. As expected, Dennis has a backlog of orders and will take a few weeks to complete your order. Custom painting and lettering (with your own business or garden railway name, for example) is offered at no extra charge - unless you have a complex logo, which can be done for a small additional fee. For more information contact Dennis at the address or phone number above - and please let him know that you saw it in Sitg.

Pearse Locomotives, The Brow, Clive Avenue, Church Stretton, Shropshire SY6 7BS, England, have announced a new live steam loco, the Welshpool and Llanfair "COUNTESS". This is a model of the Beyer Peacock 0-6-0T as running on the W&L in the 1960's. It is built to 16mm scale, but is completely compatible with G-Scale. Wheels are adjustable for running on gauge 1 or gauge 0 track. Pearse Locomotives have a reputation for quality, and this loco is no exception, being built from the highest quality materials and enhanced with brass and white metal castings. The cab is constructed of etched brass and faithfully reproduces all the rivets and fine details of the original locomotive. Steam is raised in an internally gas-fired boiler and is fed to the cylinders through piston valves. Control is by twin channel radio; one channel to work the modified Walschaerts valve gear for direction, and the other channel controlling the speed and whistle. The engine has been designed for ease of servicing. The cab roof lifts up to reveal the gas

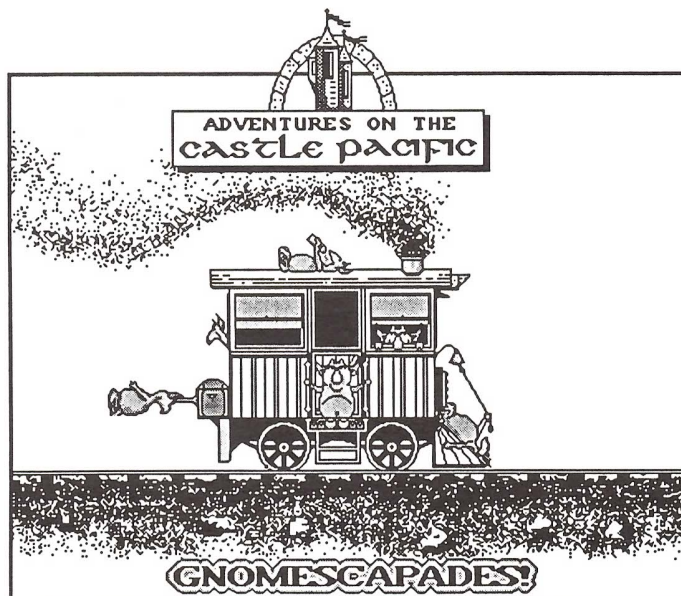
filler turret, the boiler filler cap and the lubricator filler cap. Both filler caps are knurled for ease of hanging. The boiler has a water level check valve, which can also double as a vacuum filling valve. The lubricator has a drain valve under the footplate. This is a model of showcase standard, but designed for frequent running. Price is £999, less UK VAT of 17-1/2% for non-UK buyers. Contact Pearse Locomotives at the address shown for more information.

The Steam Journal,
22 Stratford Avenue,
Greenlawn, NY 11740
- phone 516 266-5056
or FAX 516-266-1028,
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Rick Drescher's.....



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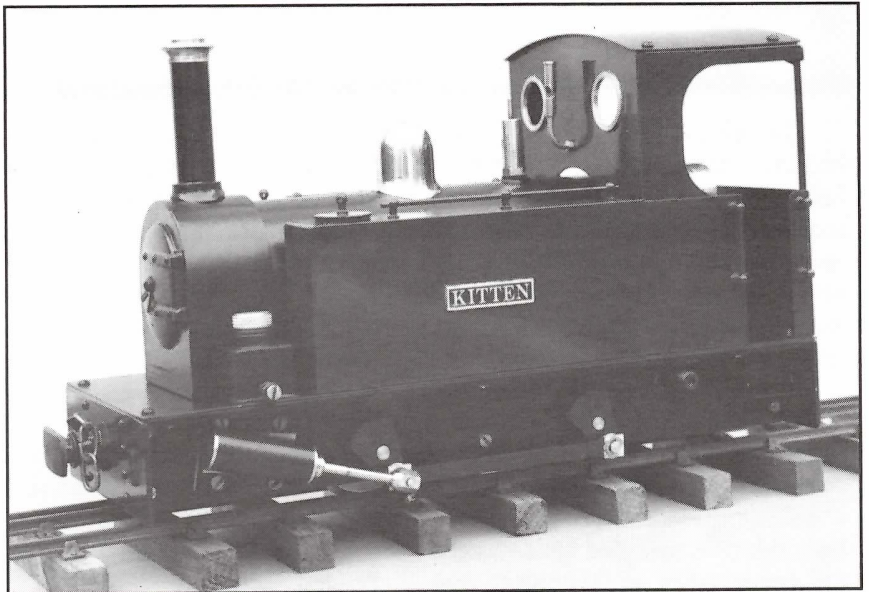
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Gazing Into the Fire

by Peter Jones

The curse of the frozen screw has blighted many a life. Matthew Labine shed a tear about it in his recent letter to the editor. This got me to thinking that it might be of use to run through some of the dodges and wrinkles. No guarantees are offered, but here goes.

One common cause of being unable to undo a screw is the difficulty in getting at it. Trying to poke a screwdriver in at a funny angle usually only leads to that other nasty by-product: a mangled head. There are times when it is quicker and kinder to remove another component first. I have got some little right angled screwdrivers - indeed you can sometimes fake something up for a specific need - but you can't get

much force on them. A screwdriver is designed to be used vertically aligned with the screw.

It is important to get the head just right. If the screw has an ordinary slotted head, then it is just a question of finding the right size driver with a correctly profiled tip. If you try and sharpen a screwdriver, don't go for a tip that ends in the thinnest possible cross-section. It needs to be "blunt" enough to fill the entire thickness of the slot.

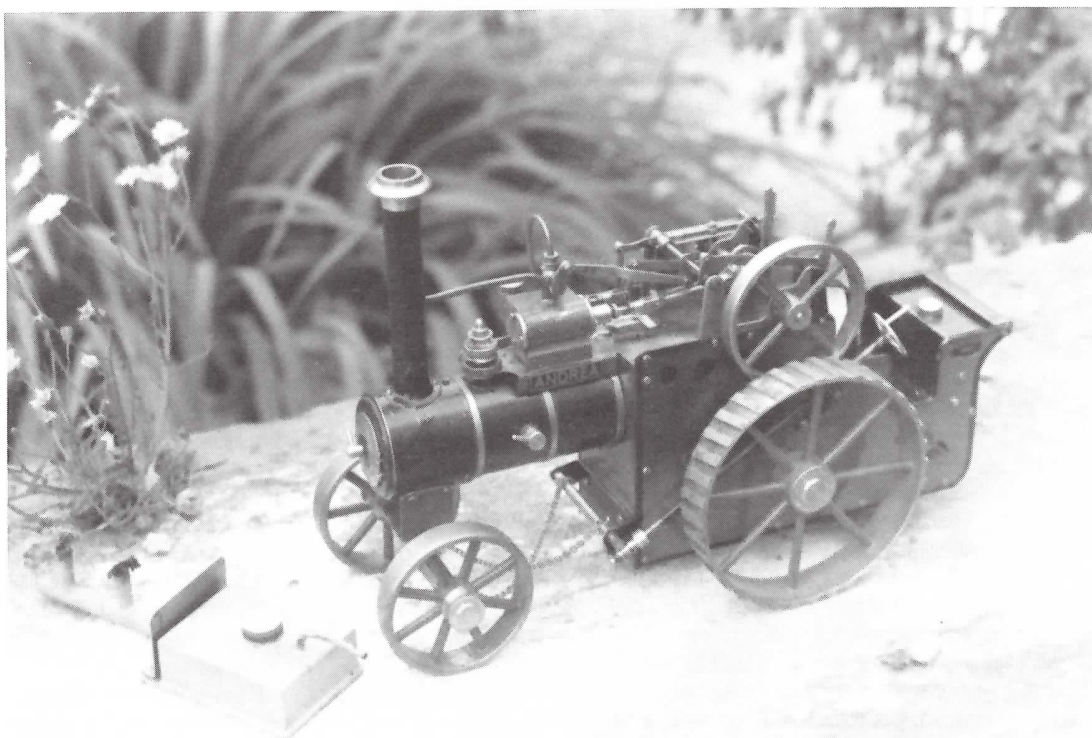
There are all sorts of cross-headed screws. Posidrive and Philips heads are different, even if they seem similar to the naked eye. A set of assorted small crosshead drivers is invaluable. But they must be good 'uns. I don't particularly

enjoy telling people to spend money, but dime-store bargains are usually fairly useless and mangle easily. So always go for quality. In short, borrowing a good screwdriver is better than buying a dozen cheap ones!

Assuming that we have got a good match of driver to slot, the main cause of failure to undo screws is that the blade doesn't grip well enough and it climbs out of the slot, mashing the head as it does so and thus making the job worse. There are ways of increasing that force. If you can press the job hard down on something, you can take a jeweller's screwdriver and press it down with all the strength of one thumb, whilst turning it with a pair of pliers in the other hand.



The ethos of the real thing; from when the world was a little younger.



16mm scale and spirit fired: a close relation to our more usual steam in the garden.

The dodge of trying to tighten a screw before loosening it is well known. Soaking in a freeing oil may help. Contrary to popular belief, heating a job - particularly a small screw - rarely helps. This is more effective in larger size engineering practice.

A tap, rather than a twist, may break a bond. This is how impact screwdrivers work. But these again are not for tiny screws. One dodge which may help is in gripping the actual head of a screw with a pair of fine nosed pliers at right angles, and actually trying to pull it round. It is surprising how much force can be obtained from this - so much that you may even be able to close up the slot of a screw sometimes.

A plain slot that is mangled can sometimes be repaired by a fine saw-cut. There are also such things as screw extractors for slightly larger sizes. But the problem is that small screws, if they are in that tight, may very well snap rather than unscrew. If you are trying to take a valve chest

cover off and a brass screw snaps, try soaking the entire cylinder in oil for a couple of weeks. But if you are restoring an old engine, then you may be faced with screws that are so corroded that they break as soon as any effort is made to shift them.

In this case you just have to make the best of a bad job. You snap them off and then drill them out. Fortunately, if they are that weak, they usually drill quite easily. You may decide to clean up the new hole with a drill and tap for a size larger. I try and remember to put a whiff of oil on any screws I put in - but sometimes forget. Don't use a heavy grease where heat is involved, as this can sometimes bake hard and turn into an effective glue!

I hope that this has offered one or two ideas to those of nervous disposition, and I apologize for going over well trodden paths for the cognoscenti.

As a postscript to this epistle, could I change the subject and draw reader's attention to another form of

steam in the garden? This is the steam road vehicle. These can be happily built in 16mm scale and be quite compatible with the garden railway. The technology is identical and you only need a flat, hard surface to run on. Moreover, they often have the ability to tick over in neutral, so you can steam up on a table or on your back step.

As with railways, although the principles are the same, American and British practice and design is different. The USA enjoyed some excellent outlines with things like Case and Avery road engines - totally different than the Fowlers and Thorneycrofts, etc., that steamed around Britain. But there is a common-ness of purpose. The subject of steam road vehicles is vast, and all that these few lines can do is to draw attention to the fact that it exists.



The Fitter's Bench

by Crankpin

A Table Vise For the Drill Press

This month, as promised, I will continue with my descriptions of the additional bits and pieces for the drill press. We will dig up all the dirt on that most useful appliance, the **drill press vise** or table vise, which is the principal workholding device intended for operations in the drill press. The drill press vise is rarely included with a new drilling machine, so this vise business falls once again into the category of "tooling up", as described in my previous article on drill bits. Tooling up, as you remember, always seems to involve the outlay of additional coin of the realm, but take heart, we are almost done . . . for now.

There are a number of different types and sizes of "table" vises which are used in order to properly hold the work in the various machine tools found in the workshop. The "table" in question here is not of the Kitchen or Dining Room variety, but rather is the flat machined working surface of a machine tool upon which the work is mounted. This is a common feature of machine tools, in which the work stays **stationary** and the cutter moves. Drill presses, milling machines, shapers, and surface grinders are all examples of this type of machine and they will all have some sort of table area.

On the lathe, as most of you no doubt know, it is the **cutter** which remains stationary and the **work** moves. Thus lathes rarely have tables in the strictest sense of the word, and it is the lathe chuck, which is actually a circular vise, that acts as the workholder. Many of you out there will also know that there are lathes which are designed and made with the model engineer in mind and that do indeed have table options which expand considerably the capabilities of the machine. But we must get back to the vises and leave the lathe for another day.

The purpose of the **drill press vise** is twofold. The first is to hold the work firmly and squarely on the drill press table while the drilling

operation is underway. The second function, no less important, is to hold the work in such a way as to better resist the torque of the drill (or cutter) which is being transferred to the workpiece as the cutting progresses.

In some instances, because of the shape or weight of the workpiece or the way a particular metal responds to the drill, a simple finger-hold on the work will do just fine. However, drill torque can very often be powerful and unpredictable, and it can be safely resisted by firmly anchoring the work. This is best done with a table vise. Although you can survive without one, you will use it so often while at the drill press that it would be silly for everyone not to have at hand in the workshop at least one good vice . . . pardon me . . . Vise. (Hmmm . . . Lust? Greed? Sloth? Gluttony? The choices simply boggle the mind!).

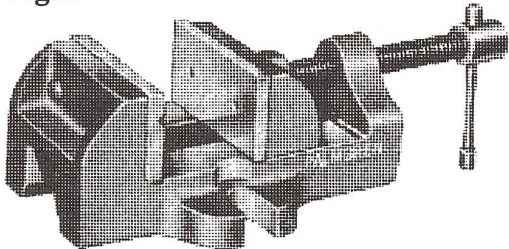
Vises come in a fairly wide range of shapes and sizes which will vary slightly depending upon the intended purpose and the individual makers. They will all be sized primarily by the width of the jaws. The main body parts of a typical table vise are usually made of high grade cast iron or cast steel and in most cases they will have removable ground steel facings on the jaws (where the work is held). This is a desirable feature as sooner or later your jaws will get bunged up - and if you want to fit some soft jaws (such as in brass or aluminum) to hold some fragile work, all one has to do is remove four screws.

A word of warning before we go further. In the world of machine tool accessories, the practice of cloning (copying) is very common. When you go tool hunting there might be a dozen different manufacturers or importers selling table vises, or chucks, or whatever, and they will all look alike. You and I know of course that they are **not** all alike, but we won't be able to tell the difference just by looking at the catalogue illustrations. When in doubt, always ask.

Figure 1 is an example of a basic, general-purpose drill press vise. It is of substantial construction but not overly heavy, and is available in several sizes from 1.5" to 6". Usually vises of this type have the replaceable steelfacings on the jaws, but are also available plain. Another handy feature is that it has integral tabs on the base to be used for clamping or bolting the vise down on the machine table. I'll have a few words to say about this clamping business a bit later on. This vise is one that I use in my own shop and I find it to be very handy for work of all kinds. Current prices for this type of vise range between \$30 and \$40 US. This particular vise, and the other examples illustrated in this article, are made by the **Palmgren Company** in the USA, and also are the products that you will most often see cloned by the importers.

The vise shown in *Figure 2* is another variation of the conventional table vise and, as you can see, it has no tabs or flanges for bolting down. For drill press work, this vise is usually hand-held or clamped with a C-clamp or block of some sort, although they are also made with a narrow hold-down slot milled along the sides. One benefit of this style is that because its mounting surfaces are all machined square and parallel, a workpiece may be clamped in the vise and then be easily transferred from machine to machine or to the

Fig. 1



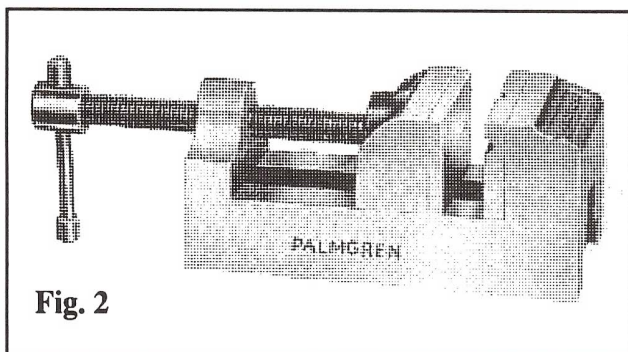


Fig. 2

bench for other work without disturbing its setting.

As with other types of vises, this one is usually offered in a range of three or four different sizes between 1.5" and 4", also measured over the width of the jaws. These vises are quite popular, especially in the smaller sizes, for holding very small workpieces. This type currently cost from \$30 up to \$80, depending upon size, for US made models. A good grade of import in this same vise will only be a few dollars less expensive than the home brew. This very same style vise (*Fig. 2*) is also available with four sides and all jaw faces precision ground for squareness and parallelness. These models generally have an accuracy of less than .0002" on all sides and are often referred to as a "toolmaker's vise". The price on the toolmaker's grade usually runs between \$175 to \$200 in the 2.5" size. Very spiffy, but I think most of you will agree with me that for the money involved we can make do without the precision grade!

The **adjustable angle vise** which is illustrated in *Figure 3* can be a very handy item to have around the shop, depending upon the type of work that you have to do. I say CAN be handy only because I have had two of these vises lying around the shop for several years, and since the better part of my drilling is done straight-on, there have been very few times that I have actually been required to use the angle adjustment capabilities.

The most common use for the angle vise around the shop is for drilling angular holes in what is otherwise a rectilinear piece, a good example of this (and by far the most common) would be the drilling of connective steam passages in a solid cylinder block, that is, those passages which join the steam admission points in the cylinders with the valve face openings. Another use would be drill-

ing angular oil holes in bearing blocks or other chassis components.

Admittedly, very little of this sort of drilling is done in the average workshop, and by very careful positioning of the work in the conventional table vise (*Fig. 1*) one can probably get along just fine without an

angle vise. However, there are those times when you will simply have to use one, be it begged, bought, or borrowed.

Since the angle vise is quite not as stable or accurate in everyday use as the conventional table vise, I feel that it would be a mistake to buy only an angle vise with the intention of killing two Pigeons with one rock. If you have to limit yourself to only one vise, and many of us do, I would not hesitate to recommend that you go for the conventional table vise as a first choice. I suppose that I ought to tell you about how I came to have two of these angle vises so you won't think of me as one of those old birds who just accumulates all kinds of STUFF simply to have it around. You see, for a long time I fancied that someday I would have to have one of them thar angular vises, and a few years back I came across an offer from a fairly well-known U.S. importer of various machine shop bits which offered cast iron angle vises on "Special". They were clones of the popular Palmgren model shown in *Figure 3*, in the most useable size, for only \$19.95 (or something very near to that). My assumption was that even

though the price was suspiciously cheap, the quality of the vise would probably be tolerable and the device itself useable. I was dead wrong! What I received was indeed everything that had been advertised and it did in fact function, but it was far from useable. The clamping screw fit so badly that moving the jaw in or out required the assistance of a short Tommy bar, and nothing about the device was machined true, flat, or square. Everything wobbled. Ever the optimist, I now consider it to be a good set of rough castings which at some point in the future I will completely re-machine and assemble into a useable or saleable vise. Another hard lesson learned.

The second of the two angle vises is identical in size and function and is made by Palmgren's. The Palmgren tool, like those mentioned earlier, is first-rate in every way for home workshop use and is what I should have spent my money on in the first place. This vise, **Model #000-B**, currently sells for about \$62.00/US at better tool merchants and is rarely found discounted. Imported models of this same vise are currently selling in a range of from 20 to over \$70/U.S.

Many drill press vises, such as in *Figure 1*, have slots or tabs cast into the base for hold-down bolts, although most model engineers that I know do not actually bolt down their vises while drilling. Fully bolting down the tool is time-consuming and is more suited for situations in which the vise is required to be carefully located and is intended to stay put for a long time, as in a long run of identical parts. However, all of the **smart** model engineers that I know take care to clamp their work, and I recommend clamping your vise and work every time, regardless of the ease of the metal being drilled. The consequences of failure to do this are not pretty and will appear when you least expect it.

This workshop mate of mine once went to drill a 3/8" hole in a small block of cast brass and, thinking it was an easy job to do, chose not to clamp his work and simply held the vise by hand. About half way through the hole he pushed the drill just a little bit and the drill point dug in and wrenched the piece (and of course the vise in which it was held) from his hand, leaving a nasty cut. In cases such as this, the drill press doesn't stop and the vise, workpiece and all then proceeded to revolve for a few moments at

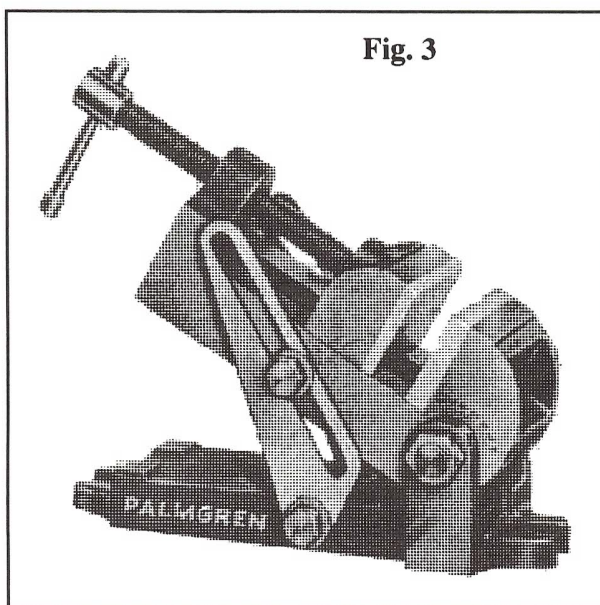


Fig. 3

about 400 r.p.m. The first tendency is to retreat to a far corner of the shop, and with good reason. The eccentric weight of the revolving vise quickly caused the drill bit to snap, sending the whole lot flying. It first ricocheted off the drill press column, leaving a nasty dent. The next stop was the newly painted workshop wall, leaving a hole big enough to pass a hedgehog through, and finally it landed on the concrete floor with severe damage to all. A nasty, destructive experience and one that could have been prevented by simply clamping down. Unfortunately, with human nature being what it is, many of us will have to learn this lesson the hard way, but I wager that once is all it will take.

A recent respondent asked that Old Cranky identify the sellers of cheap junk by name, and though I know many of you might benefit from that, I really shouldn't do it.....for several reasons. Let me use as an example the importer of the offending angle vise mentioned a bit earlier. First, I have purchased several other items from this company both before and since this time which were perfectly satisfactory in every way, considering the price which was paid. Secondly, the company would have taken the vise on return had I returned it to them, but as I said earlier I decided to keep the carcass for the castings. Lastly, but most importantly, I should have known what level of quality to expect from the price. I have little basis for complaint since I indeed got only what I paid for. Now in all fairness, should I go about bad-mouthing this operation? I think not.

In addition, whether you realize it or not, everything is "good stuff" to somebody, no matter how bad it is. "Goodness" or "quality" is primarily a function of your own personal requirements and the price asked, so it is really inappropriate for me to make that kind of value judgement for you. What I want to do, however, is to provide you with some of the information that you will need to make your own reasonably informed choices. There is no free lunch, and if the price seems too good to be true, it usually is.

There are a number of suppliers in the UK, and one or two in the USA, who offer various sets of castings for building one's own vise. As I have never seen fit to take this path, I cannot comment upon those products, except to say that a milling machine or a lathe with a milling attachment is usually required to build them.

And now for some idle chatter. Several of you have written asking for reviews or descriptive articles on the smaller model engineer's metal lathes and how to use them. Your Editor and I hope that these will begin to appear in due time and as time and space allow. However, this lathework business is a vast and complex subject and cannot possibly be adequately covered in this magazine except over a very long period of time, and I'll have probably bought the farm by then. We will do what we are able, but I can tell you that my own approach to this task is going to be to describe a specific operation, such as turning drive wheels, when called for, rather than to pour out a long and winding general narrative on "turning round

things". In the meantime, my impatient friends, there are simply scads of books in print on lathework in general, many of which should be found in your local public library.

By the time this edition appears at news agents' around the country, many of us will have just returned from the first ever **National Garden Gauge Steamup** in Diamond Head, Mississippi. This is an event whose time has hopefully come, and one which I have been looking forward to for some time. I have every expectation that it is going to be a very educational weekend; even old Cranky will be greatly disappointed if he doesn't learn something new. In the next issue I will no doubt take the opportunity to include a few words about what I saw and heard that was of interest, as well as to continue with further bits and pieces of our series on the drill press. What's that you say? Yes, as a matter of fact old Crankpin was indeed there with his eyes and ears on, actually walking amongst ye! I fully expect to be able to say next time out that a good time was had by all.

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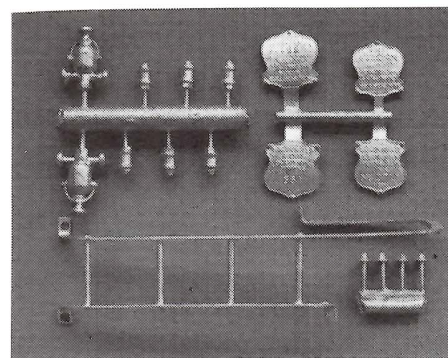
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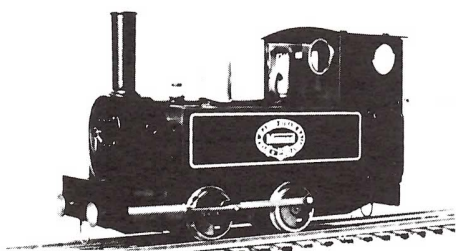
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Loco Impressions - Steamlines Shay

by Pete Thorp

A Stem-Winder From Across the Pond

First off, let me say that I bought the Shay as a kit and, quite frankly, was in shock for about two weeks after I opened the box. It is NOT a kit for beginners! Luckily, I had previous soldering and assembly experience from my On3 days and was pretty well able to figure out what had to be done and in just what order. The instructions are copious and most helpful - but then they would have to be!

For about two weeks I sat and stared at the many sheets of etched brass before carefully wrapping it up and trading it back in for a ready-built model. Yes, it cost quite a bit more, but I've only got just so many

modeling hours available and wanted to get something on the rails quickly.

The engine I got appeared to have been assembled well and I was told that it had been steamed up a couple of times. However, my first few runs were done with the engine on blocks and running freely. Even then it did not really run smoothly, but for a new engine I didn't expect much better.

Later runs on the track were also somewhat disappointing, as it seemed to want to go much too fast on the straights and any type of curve would really slow it down. It began to free up a bit with every session, so I kept it oiled up well - especially on

the gears, which I suspect were set up a bit too tightly.

First impressions of this Shay are that it runs much too fast, has a limited duration, lacks pulling power and could use a water glass. Also, the frame is weak, with noticeable flexing when the loco is picked up or handled. However, it's very good looking and makes fantastic smoke.

I have recently added a Futaba R/C unit that helps me control the speed much better (and easier) than running along the railway after it. Luckily, there is quite a lot of room in the cab and tank area for R/C gear.



Author's Steamlines Shay poses with a log train on a scratchbuilt trestle on Arnold Hoffman's North County Railway in Atascadero, California. Pete says that radio control is really necessary to help tame this "geared rabbit" - and also helps to extend the duration of the run. The North County Railway is built on a 30" raised embankment, the trackwork being hand laid using steel rail and with a minimum radius of 10'.

Photo by Pete Thorp

The speed is still much too fast for a Shay, but I'm thinking of chucking the tires in my Unimat and taking about 3/16" off each wheel, as there appears to be enough meat on the rims to do it. This might lower the speed perhaps 15% or so, but so far I haven't done it because it's still getting run-in.

I've had trouble with the "quick filler" water arrangement, which seems to spray more water on the engine (and on me) than in the boiler! Just as I finally get the water added, the butane runs out anyway, so I usually just let someone else out on the line after each 18-20 minute run. Lately I've been turning the fuel down a bit to extend the duration of the run, but find that it hampers pulling power and recovery time.

In addition to being geared too high, causing the Shay to run much too fast, it seems that the burner/boiler combination just can't make enough steam fast enough to keep up with the demands of those steam-hungry oscillating cylinders.

I've been toying with the idea of removing the messy oil tank and smoke generation devices - which may be stealing more steam than they are worth - and perhaps installing a water level gauge so I can relax a bit whenever my sidewinder is out on the road. Overall, I have come to love my fleetfooted baby, but have found that she has a mismatched speed/recovery ratio. I hope my comments will be of some use to others regarding this engine.

The MOODY RIVER Shay is produced by Steamlines, Unit 9, Radfords Field, Maesbury Road, Oswestry, SY10 8HA, U.K.

Price: \$1995.00 (Factory built) - price subject to variation with exchange rate.

Pete Thorp owns and operates Trackside Details in San Luis Obispo, California. He is a veteran garden railwayman and live steam enthusiast in many scales - his pride and joy being his 2 1/2" scale, 7 1/2" gauge C&S Mogul.



Steamlines MOODY RIVER Shay, oscillating cylindered Osmotor clearly visible and smoke generator hard at work, pauses for a photo opportunity on a trip through the Welsh countryside.

Photo by E. Bellass, courtesy Steamlines

The Hobbymat Miniturn 200

reviewed by Peter Jones

Machine Tools For the Home Workshop - What to Buy and How to Use It Part of a Continuing Series

Lathes fall into several categories - mostly dependent on size. There are the miniature lathes, the normal model engineering machines and the stonking great industrial things that they use to true up Apollo moonshots with. Some years ago, into this picture, came the Hobbymat, which fell conveniently between the model engineering lathe and the miniature. It could turn out a modest five inch gauge engine and came complete with a variety of tooling which made it very versatile. After being involved with all sorts of machines in my life, I eventually settled down happily with the Hobbymat (known as a Prazi in

the USA), which I recently reviewed for SitG readers (*see Really Useful Guide to Lathework, Vol. 3 No. 2*).

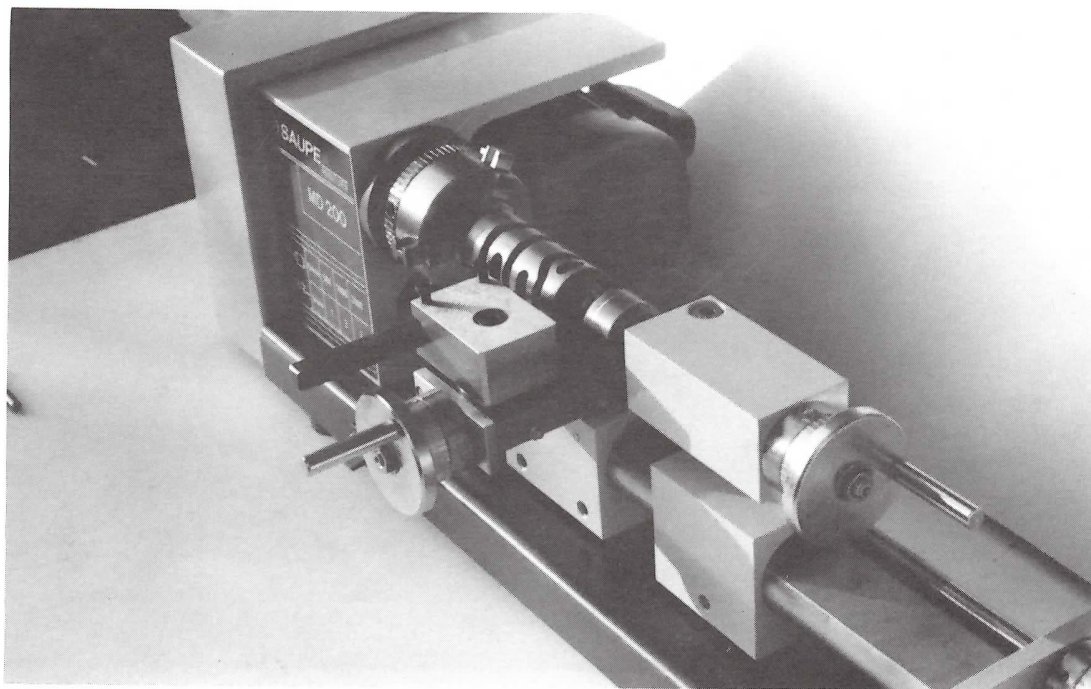
However, Carl Zeiss have found a new niche in the market. It is for something that is slightly larger than a miniature lathe but which is very heavily built and strongly motored.

I have been road testing the Miniturn 200, as it is called here in the U.K. Here is a machine that will turn a wheel casting some 4" in diameter and a smaller bar some 8" to 10" in length. But the important thing is that it weighs some 25kg (55 lbs.) in doing so. This represents a very robust and rigid construction. For the

chap who wants to work in scales below 3-1/2" gauge (although 3/4" scale is quite feasible on this machine), this is just about perfect.

A particular design criteria was to produce a machine that would be at a budget price, by dint of giving the modeller just the amount of versatility he needs without paying for more. Thus the beast, in basic form, only has three speeds and doesn't have a self-acting gear cutting capability. To cut threads in rods you are limited to using conventional dieholders in the tailstock.

The price in the UK is £325 (roughly \$500 American) plus tax. For this you



The Hobbymat Miniturn 200 - approximately 23" long overall.

Photo by Peter Jones

get only the basic machine. A limited range of accessories is available in house, but the headstock will accept Unimat fittings and the tailstock is 1 Morse taper. So a variety of second-hand tooling can be accepted. Amongst the first official gadgets available for the lathe by the makers are slow speed and taper turning attachments.

As is common with anything by Carl Zeiss, the engineering build is superb and the manufacture to extremely close tolerances. A set of watchmaker's collets is available, with which the accuracy of the machine will bear comparison with any other make in any size.

In my trials, it was nice to get back to using a small lathe for awhile. I was a bit worried about the limited speed range, but with modern high speed steel or carbide tipped tools I could get a perfect finish on just about anything I cared to try it with. Mild steel and chunky cast iron was no problem.

This machine is quiet in operation and sits attractively on the eye. It has nice clean surfaces, without too many swarf-hiding crevices.

Best of all, there was a really solid feel to the beast. Combined with the accuracy of manufacture, this lifts it straight to the top of the class of small lathes in my book. Even though a variety of tooling isn't supplied at the basic price, this must surely be one of the most competitively priced lathes to be seen for many a long day. For such of us as may build small steam engines for garden use, this is just about perfect. For regular working above 2-1/2" gauge, I would still go for the Hobbymat D65, but I realize that I would be paying for more capacity and capability than the G-scaler would be looking for.

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Due to current project commitments, no boiler or machine work can be accepted until after February 1st, 1993. In the works for 1993, Ga 1 driver castings in cast iron, fully machined or rough.

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A Pair of Burner Upgrades For Your Mamod

by Richard Finlayson

Face it, Mamods are fair weather friends. The first thing any Mamod owner figures out is that those smelly pellets just don't have what it takes to get the whole job done, especially in a non-ideal weather situation. To that end, both meths and gas burner upgrades are available to assist underpowered Mamods.

The second thing any Mamod owner figures out is that there isn't much steam getting to those cylinders to turn those drivers. Volumes have been published on how to increase Mamod performance. It's really tough to get a good running loco - regardless of how much fire you hang under it - without following those performance enhancement guidelines. So....until you fix the mechanical and motion problems on your stock Mamod, neither of these burners are going to give you much joy.

I have done some serious rework on the two Mamods that these burners were tested on, and have also added Miniature Steam Railways cylinders. It's time and money and after all that work you have to wonder why anybody bothers....but a good running Mamod looks and sounds great, and the body variations that have been created in home workshops are fascinating. The Mamod is an easy way for steamologists to express themselves!

Before I start to sound like a Mamod freak, let me suggest that if you are just starting out, consider starting with a Roundhouse chassis instead. You'll have an incomparably great running loco and you'll learn all sorts of new things about small steamers. And after you've pumped money and time into your Mamod for new cylinders, drivers, burners, chassis upgrades, etc. - you'll be just about even. I look at Mamods like I look at human powered flight - when the planes are designed well they fly great (though not long), and they look fantastic while they are airborne. And for every time somebody completes a Channel crossing in one of them, you'll

get a 12 minute run from your Mamod. Having said that, let's take a look at two very good burners that can be used to keep the pressure up and to get a full run on your Mamod.

METHS BURNER (Alcohol fuel)

The meths burner that I tested is available from Samuel Muncy at Railway Garden Ltd. The meths unit is a three tube burner, with a fill spigot and a vent line. The burner is easily mounted by sliding the entire assembly up from underneath the loco and tightening down a thumb screw. The fill spigot is vertical, but is easily bent to one side to allow easier access from whatever angle suits your particular cab or chassis.

I have used one of these burners for more than six months and have found it to be an excellent performer. I was having a hard time finding wicking material over here and it was recommended that I try a very fine steel wool. However, I have to say that I wouldn't recommend this because of at least two problems. The first is that wicks, used correctly, are like a valve that can be used to maximize the burn, as well as "tuning" to get the best flame size and shape.

The two different grades of steel wool that I tried did nothing more than provide capillary action to get the meths to the top of the burner tubes. The flame was too big, too yellow and too smelly to provide any sort of economy or efficiency in the burn.

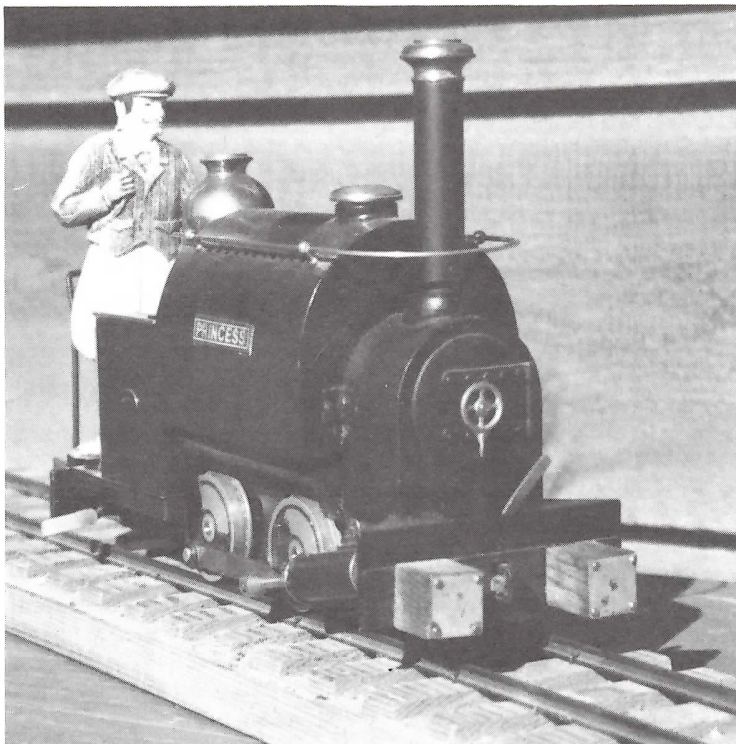
The other problem is that the steel wool rusts, sticks to the sides of the burner tubes and makes it tough to get the wicks out, which you'll need to do sooner or later because the steel wool burns away quite rapidly at the top. I have been using standard asbestos wicks (8 or 9 strands to the tube) for a few months now and get great results.

Tokyo has a climate that is similar to Washington D.C. (or so I've heard), in-

cluding cold winters and fairly regular winds. During a good day this winter it would take a full tank of meths to get the Mamod up to pressure. I would then refill the tank and be lucky to get a 6 minute run. However, this spring and summer I am getting 8 minute runs on one tank, the only variable being that the strength of the wind has a very big impact on how much pressure is left to spare. In a stiff wind my Mamods sometimes stall out on my 3% grades and one necessary 90° section of LGB's smallest radius curve (My Morgan Creek line's nickname is the Yank & Bank Short Line). Other than that, if you have moderate or slight winds on a nice day the safety valve will lift in about 4 minutes after lighting, and you'll get a good, solid 8 minute run. Mamodology at it's best!

There are a few points on which the design comes up short. When installed, the front burner tube is precisely aligned with the safety valve on the boiler. The condensation and water that comes off the valve runs around the side of the boiler and lands squarely on the flame and burner tube. I am now in the habit of making sure that I either mop up any excess water that bubbles out of the valve while the Mamod steams up, or I set it in motion just before I think the valve is about to really go. It doesn't take much water on those front wicks to screw up a nice, even burn. Also, the shape of the tank is oval, but the space between the frames is square. I could sure use that added capacity on cold days, and in the winter when I expect that I will reset the wicks for a hotter, but more fuel-consuming burn.

Finally, there is no overflow spigot. The vent line points up and splashes meths on the cab and foot plate when the burner is full, or right after the burner is lit and the expansion in the tank "pops" the vent clear. Make sure you mop this up and let it sit for a minute or so, because you will inevitably light up your



Much has been done with Mamods to alter both their appearance and their performance, particularly by live steamers in the U.K. "Princess", a delightful little loco built by Graham Stowell, once owned by Peter Jones and now in Samuel Muncy's collection, illustrates the point quite nicely.

Photo by Samuel Muncy

cab while trying to light the burners. The necessary vent action could easily have been included in an overflow tube design that would carry the splashes of meths down and away from the loco.

GAS BURNER (Butane fuel)

The gas burner is available from Salem Steam Models. It consists of a tank, control valve and filler valve that all sit above the footplate, and a burner tube that rests under the boiler. The burner tube is about 1/4" in diameter and has four rows of small holes bored in the top of the tube. The assembly is painted flat black, except for the burner tube, and is easily installed by sliding the assembly in from the back and fastening it with a single screw from below.

This burner is a real performer. A word of warning: **NEVER DRY BURN A MAMOD, ESPECIALLY WITH A GAS BURNER!** The Mamod boiler is soft soldered and will disassemble itself for you in rapid fashion if run dry.

Filling the butane tank is easily accomplished, and a twist of the gas valve gives an audible gas hiss. I always crack the valve for a second or two and check for condensed gas that looks like mist. Make sure that it is all cleared from the lines before you light up, because the condensed gas is like "burning mist" and will do a real number on your chassis if left to burn.

I had a hard time setting the gas control valve on my first try with this burner, and decided to wait for nightfall so that I could more easily see what the flame was doing and how it was burning.

What I found out was that 1/4 turn of the valve is almost too much. The flame was burning way too high above the burner and kept blowing itself out. After a bit of fiddling I figured it out - crack the valve open until you just hear the audible hiss. Use that setting for raising steam. As soon as the valve lifts, tweak the valve back so that the hiss is no longer audible, and let 'er go.

I watched the Mamod like a hawk the first half dozen times I used this burner because I was very worried about running the boiler dry. However, the Mamod did a full run every time, the water level hit the low mark and the burner went out. Better to keep an eye on that water level anyway, and I always set the egg timer just in case!

As with all gas burners, it's difficult to fill the tank after it has warmed up. The proximity of the tank to the heat means that you get good pressure throughout the run, but that you will have a hard time refilling the tank. My work-around for this is to squirt cool water on the tank. I am careful not to douse the whole engine because I can't imagine that it's very good to hit all that hot metal with cold water.

I also warm the gas canister with warm tap water. *(Never put a gas canister in HOT water to warm it up! I've found that keeping it in a shirt or pants pocket - or inside your shirt if you can stand it - will keep the canister warm enough to do the job. - ed.)* This solution works pretty well on all my gas locos, but once in awhile you'll get a short run from not being able to fill the tank completely full.

This burner suffers from the same ailments as many others - the valve is too touchy and the on-off range is too limited. This valve is fully open at 1/4 turn. Also, the filler valve is mounted so high up on the tank that it's difficult to maneuver large canisters into position to reach the filler valve.

Finally, the tank must be filled from the rear, so if you have a body modification (as I do) that doesn't make it easy to remove the rear panel, then you will find filling the burner to be a problem.

In summary, either one of these burners is an excellent upgrade to your Mamod. Some like meths, some like gas. Neither is free from the problems that each type of fuel suffers from, but both will nicely do the job of hanging more fire under your Mamod.



Building A Portable Live Steam Display

by Stewart Perkins

Spreading the Word

Basically I am a collector of toy trains: American Flyer, Lionel and Marx. For years I have attended local train shows and displayed the toys with which most of us grew up. Although those in attendance always enjoy the elaborate N and HO gauge modular layouts, I never lack for attention with the old-time, 4' X 8' flat-top displays with tin tunnels, Plasticville buildings and animated accessories. Therefore, it was only natural that when I finally succumbed to the desire to buy a live steam locomotive, it would have to have two elements. First, it had to be a collectable toy train, and second, it would need to be suitable for a modular display board for the shows.

The first part was easy. In 1989 Mamod came out with their fiftieth anniversary engine. It was perfect! It was definitely a toy, and one which I could afford. It was an anniversary issue, so it was collectable. And for someone who thought a meth was something you cleaned up when you thipped the water while filling the boiler, this was exactly what I needed and wanted. Even my wife admitted that the little engine was "cute"!

The second part was not any more difficult. In fact, the entire project took only one Saturday. Believe me, it was not only enjoyable making the display, but has been a great source of fun for thousands of viewers, as well as myself, over the past two and a half years. Kids of all ages marvel at how anything so small can really run on live steam. One of the most popular events, believe it or not, is when I have to clean those horrid Mamod fuel pellets out of the tray, hand lubricate the moving parts, and then refill the boiler from the water tower. (The majority of the water is poured from an electric tea kettle, but a little shot from the water tower doesn't cool the boiler down too much.)

The whole time she is steaming up I give an explanation of how a live steam loco works. A cutaway diagram of the

engine on display adds to the explanation. Then finally, with a shriek from the whistle, the locomotive hauls its two car consist around the 4' X 6' oval.

To make your own display board you need two 5' X 4' sheets of 1/2" plywood. Because the engine is the main part of the display, little if any scenery is required. A quick coat of dark or medium green flat paint will protect the board from spills, add some color and give a more finished look to the display. Once the paint is dry, you need to drill three aligning holes in the end of each board. Each hole should be about an inch deep, using a 1/4" drill bit. 1/4" doweling can then be glued into the end of one of the two pieces. This will align the boards for joining together when in use. One solid piece of 5' X 8' or 6' X 9' plywood is available by special order in some areas, but the weight is prohibitive for shows. You need to be located in the show as far from doors as possible to keep drafts from cooling the boiler and from blowing out the fire. Once the dowels are in place, the underside of the boards should be framed with 1 X 2's. They will help keep the plywood from warping and will lift the boards off the table tops provided at the shows. The 1 X 2's should be back about 1" from the edge of the boards. This will allow the display to rest safely on two 3' X 6' tables when the preferred 3 1/2' X 8' tables are not available.

With this stable platform finished we can begin track work. There are four sections of LGB straight track on the 8' sides, but the center two are removeable for safety in transportation. Place an oval of track on the board with the connection of the two center straight pieces directly over the joint between the boards. Outline the oval with a pencil, leaving about a one inch gap on either side of the track, then remove the track.

Using a small brush, paint a mixture of two parts Elmers glue to one part water on the boards, staying within the pencil outline. Carefully spread and

level a thin layer of Speedi-dry (from your favorite auto parts store) as ballast. Once this is dry, place your oval of track on the ballast and nail it down. Don't worry about any loose Speedi-dry. As soon as the track is down and level, spread more Speedi-dry across the ties and along the edges of the track, tapering the outer and inner tie ballast. Do this in layers, spraying a 50/50 mixture of glue and water. After each spraying be sure to wipe off the rails with a damp cloth! When the ballast looks good to you, you are done.

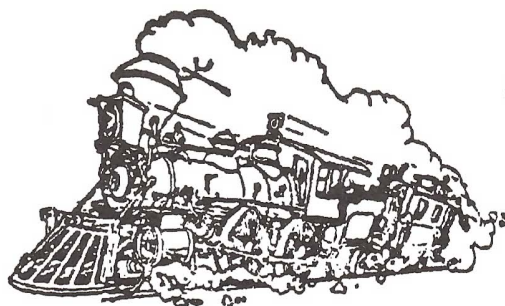
The reason for the Speedi-dry is that it looks very realistic. It also absorbs the oil and water, is non-flammable and is easily repaired by adding more Speedi-dry and spraying it with the Elmers glue and water mixture.

The rest is up to you. A couple of small buildings, maybe some spotlights (K-line 0 gauge lights, available at most hobby shops, look great, and a small transformer can be hidden under a house or station to power them), and a few model cars and trucks can add to the display. Just a few tips, though. It might be wise to rope off the area to keep smaller children (and a few adult-sized children) at a distance. Take some tools with you - something always goes wrong! Extra shop towels are a must. Visit a local paper company or janitorial supply store to get some oil absorbent towels. And watch your speed; the tracks get slippery very quickly. You are not in the garden and those short straights and tight curves can cause problems. Wrecks are exciting, but the LGB ties melt when fuel pellets fall out on them! Most important, wear your engineer's hat and gloves. After all, you are at a show, and a little showmanship really adds to your display.



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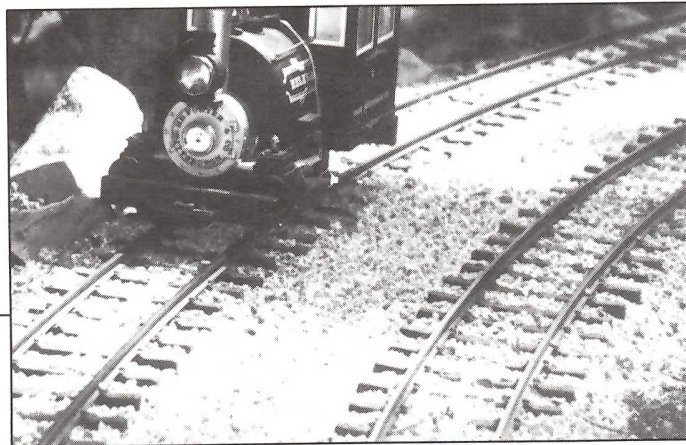
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Welshpool & Llanfair Weekend September 1992

by Peter Jones

This was yet another of a long string of superb annual weekends at Llanfair Caerenion, based on the Steamlines Weekend and amply backed by the railway society with a string of events.

This year saw SUPERIOR - the KS 0-6-2 tank engine, brought up from Whipsnade.

Also in attendance was a steam roller and a very nice Sentinel steam wagon.....a brewer's dray.

The railway ran a plethora of special trains, including freight, and also ran a shuttle a short distance down the line to the coach workshops.

SUPERIOR, with her reduced boiler pressure, found Llanfair something of a culture shock. With a low waterspace over the firebox, considerable anxiety was caused by the gradients. That reduced pressure limited a working load

to two 4-wheel coaches. But it has to be said that it did look nice.

The garden railway show was excellent, with plenty of good support in the form of trade, layouts, etc. Weather was again kind and, despite the event clashing with several others on that same weekend, it proved to be another great success to both the railway and the garden railway show. This year the latter was held adjacent to Llanfair Caerenion station and this heightened the feeling of closeness between the model and the full size thing.

The railway was also proudly displaying its new station building at Welshpool. New is hardly the word, as it was a very ancient and dilapidated railway building that has been dismantled, removed to the site and mag-

nificently rebuilt. It looks most appropriate.

As usual, I had a modest stand there, selling my books and a few odds and ends - but mostly using it as a vehicle for meeting people and talking. There was no spare time whatsoever. Apart from anything else, the trains were ridden on all possible occasions and both camera and tape recorder we well employed.

Inevitably we returned home from this loveliest of meetings with batteries fully recharged (although temporarily weary of body.....).



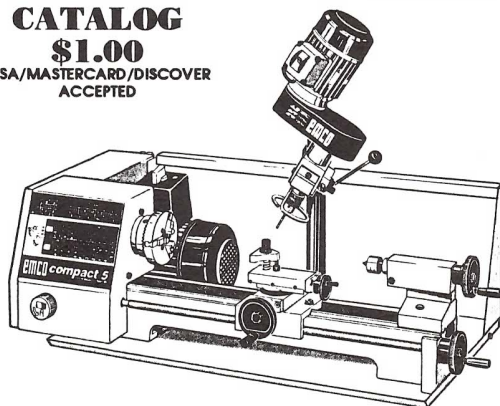
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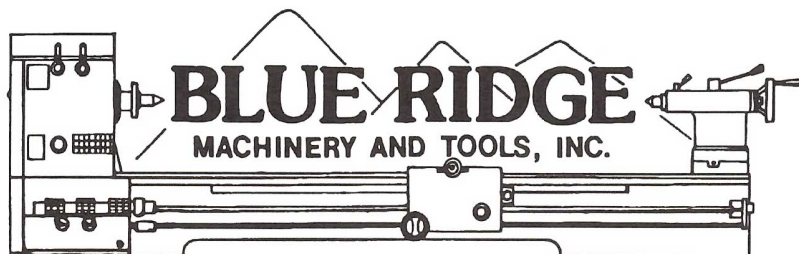
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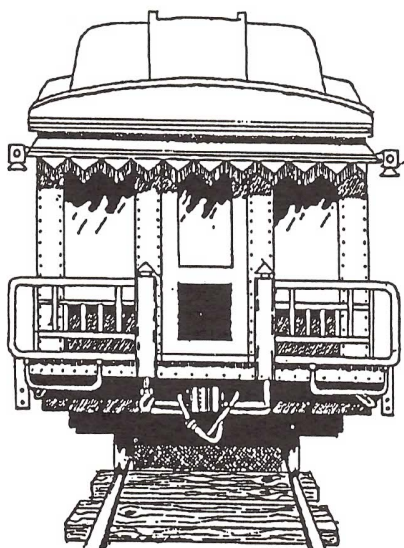
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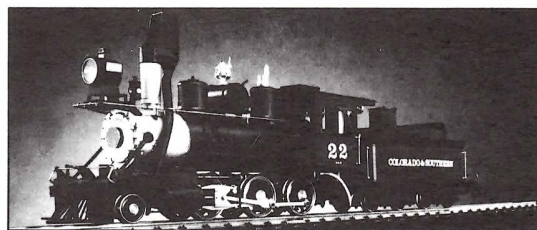
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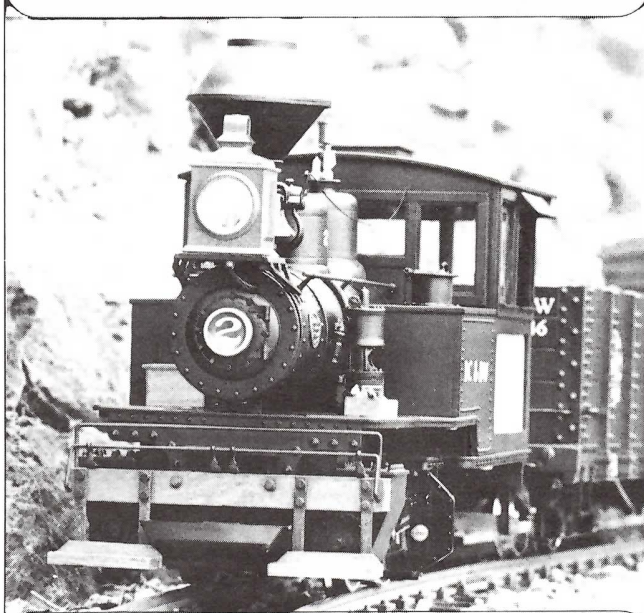
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Walking Down Older Paths

by Peter Jones

Part II of a Series

One of the principal drawbacks of the steam locomotive is the need to carry a huge roaring fire inside it - with its accompanying smoke and pollution. This is obviously undesirable, but has been accepted as part of the basic Stephenson design, which applied equally to his Rocket and to Big Boys. But there have been various reasons for trying to do without that fiery furnace. An all-electric locomotive is more efficient than a diesel-electric because every single engine doesn't have to carry its own generating plant around with it. So, in theory, with the steam loco. Suppose you could get individual engines all to take their steam pressure from one giant furnace - how much better it would be. But, of course, there is the obvious restriction. The machine can only handle a limited amount of steam. Unless it were to be impossibly large, the boiler of the fireless loco restricts things to light engine duties over a short time, which means being tied to a confined location.

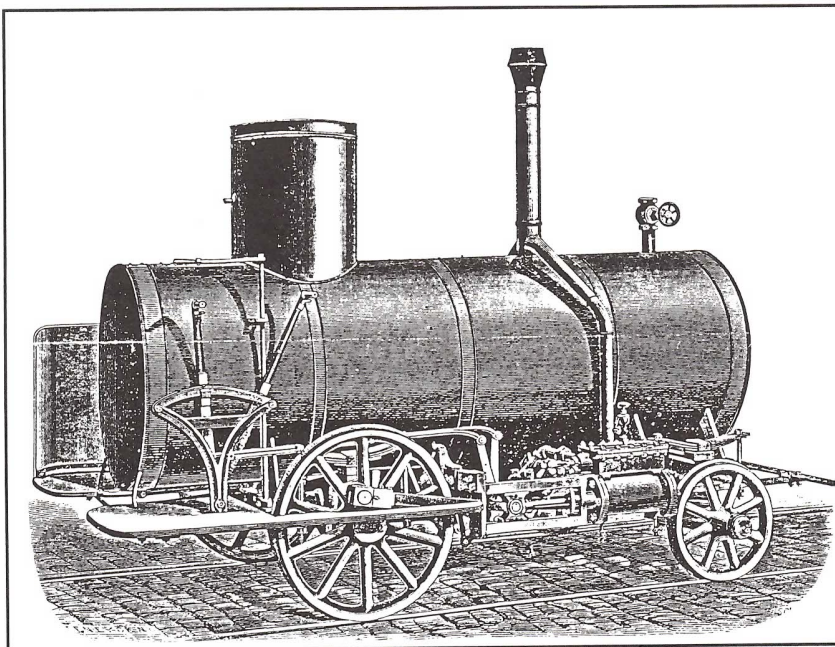
Thus the common application has been in small switching areas. The advantage is so small that, in practice, these beasts were generally found only in smoke sensitive locations - biscuit factories, explosive stores, etc. Incidentally, in the UK there have been some superb incongruities. It was common practice for the driver and fireman of a freight train, hauled by a conventional steam loco, when entering a munitions store, to be searched for cigarettes and matches!!!!

There were also attempts at civilized steam for other reasons - includ-

ing ways of producing fireless engines for underground trains. One line of experiment was for street transport. The illustration shows a "Steam Storage Motor" built in 1876 by Theodore Scheffler in Patterson,

ing point and then generated electricity for a traction motor for the next 45 minutes. It worked, but was irrelevant in an age of cheap internal combustion.

And what of the modeller? Well, the fireless locos are frequently simple in outline. Thus they make an easy battery model. The Compton Down Railway has seen a genuine scale model of a fireless loco, which runs for about 15-20 minutes on a charge of compressed air. The engineering is not particularly simple. I did experiment, in my callow youth, with various means of chemically producing gases to drive a typical cylinder unit. Most of these were of such a lethal nature



New Jersey. They were an attempt to displace horse power in the street without using electricity. It seems that they worked well, but were no match for the electric streetcar.

I have driven a fireless loco in times past. It presented an interesting experience; the nice woomph of steam, but without the hassle and dirt of coal. Typically steam would be stored at 450 psi and fed into the cylinders via a reducing valve. Depending on the intensity of work, they might run from 45 to 60 minutes between charges.

Mention should also be made of odder variants of fireless engines. Like the baking soda chemical gas producer "steam" engines. Even in recent years there were still experiments. In the UK we had what looked like a small gas switcher, but inside was a massive flywheel. This was spun up to high speed at a charg-

ture that it would be utterly irresponsible to even suggest the methods. Did you know, for example, that early experiments with automobiles included examples which ran on gunpowder.....?

Perhaps it would be safer to suggest that the illustration depicts something that would make an unusual battery locomotive. But as a footnote, could I draw your attention to very early models of steam locomotives? It was often common practice to fire these by heating large irons up in a furnace and then placing them inside a boiler flue. Such things have long disappeared from everywhere bar museums. I have often thought that it would be interesting to recreate something along these lines. It would make for an interesting project.....



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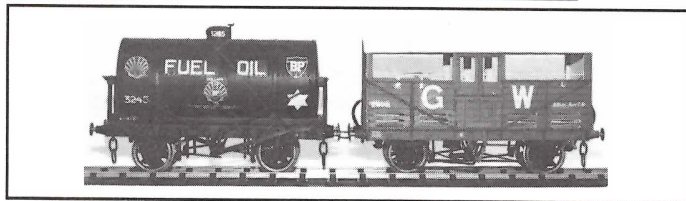
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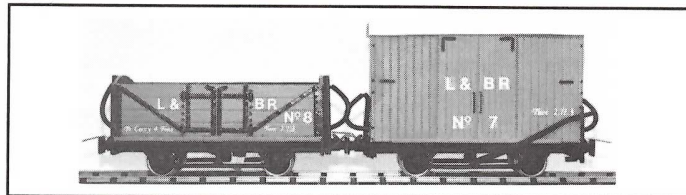
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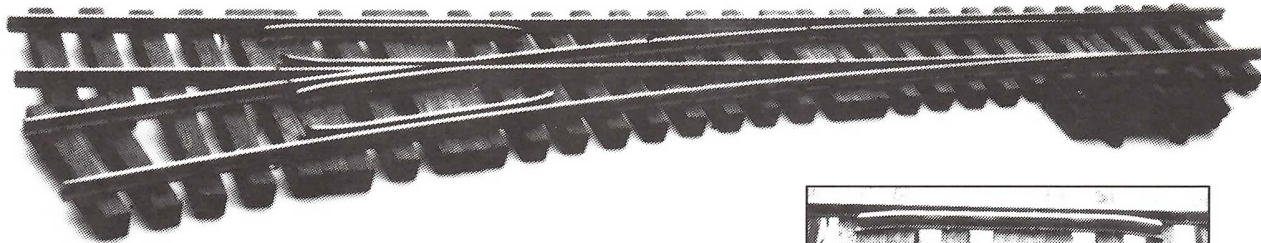


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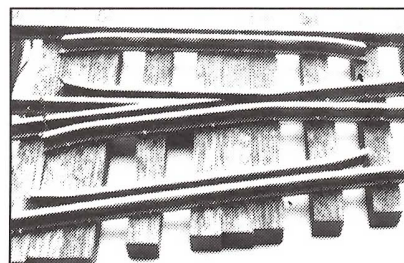
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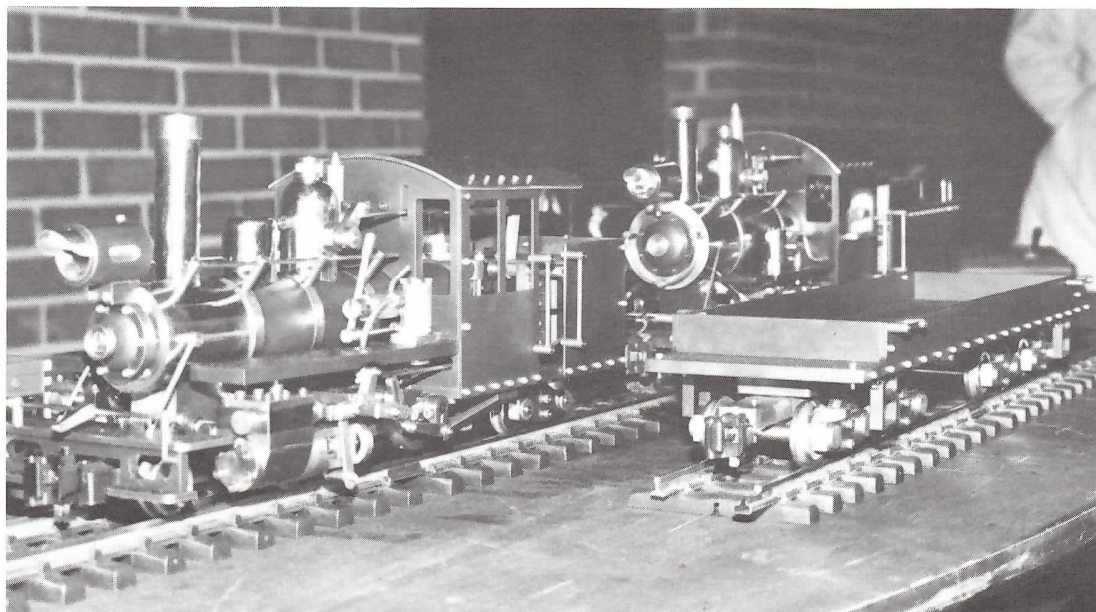
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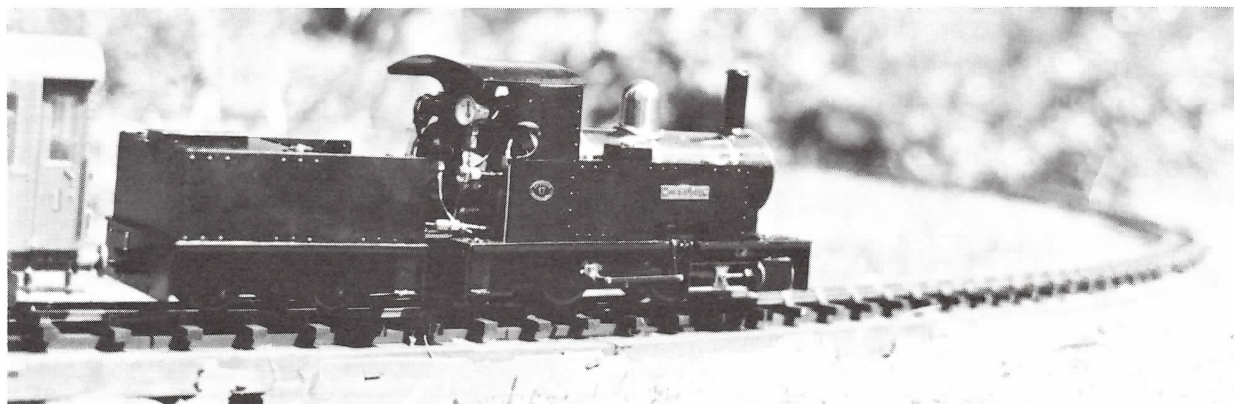
Steam Scene.....along the rails

We invite you to send in your favorite photos for this feature, always with vital information like photographer, subject, where, when and why. Then mail them in to SitG, P.O. Box 335, Newark Valley, NY 13811. Please include a LSASE with sufficient postage if you'd like your photos returned. And please be sure to affix a label to each photo with your name on it so we can identify the sender when your photo gets mixed into the pile with all those others!



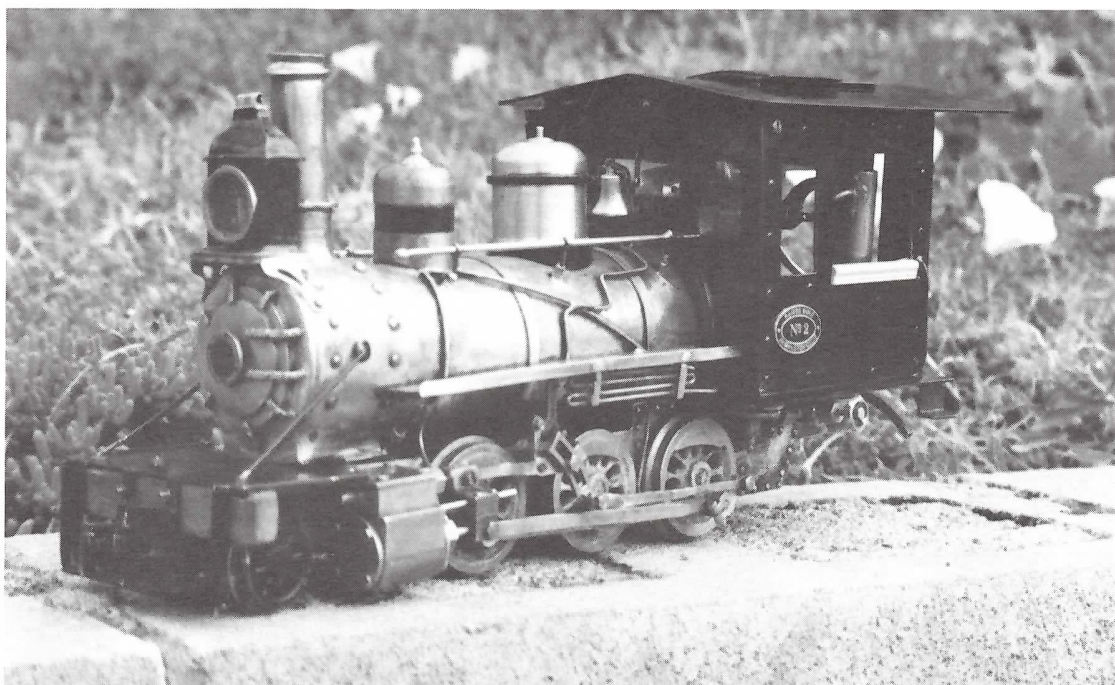
This was just one of the amazing sights to be seen at the recent First National Gauge One Steamup in Diamondhead, Mississippi (we'll have lots more coverage of this landmark event in the next issue). All three pieces were entirely scratchbuilt by Charles Mynhier of Houston, Texas. The locomotives performed amazing feats of strength by hauling first a 100# load of steel, and then their builder, around the track without difficulty. Charlie has promised to give us a much closer look at his works of art in an upcoming issue - watch for it.

Photo by Don Puccini



"CEYLON", a coal fired Bagnall 0-6-0 built by Mike Gaskin and owned by Marc Horovitz, on test on John Chambers' Boyn Hill Railway.

Photo by Dave Pinniger



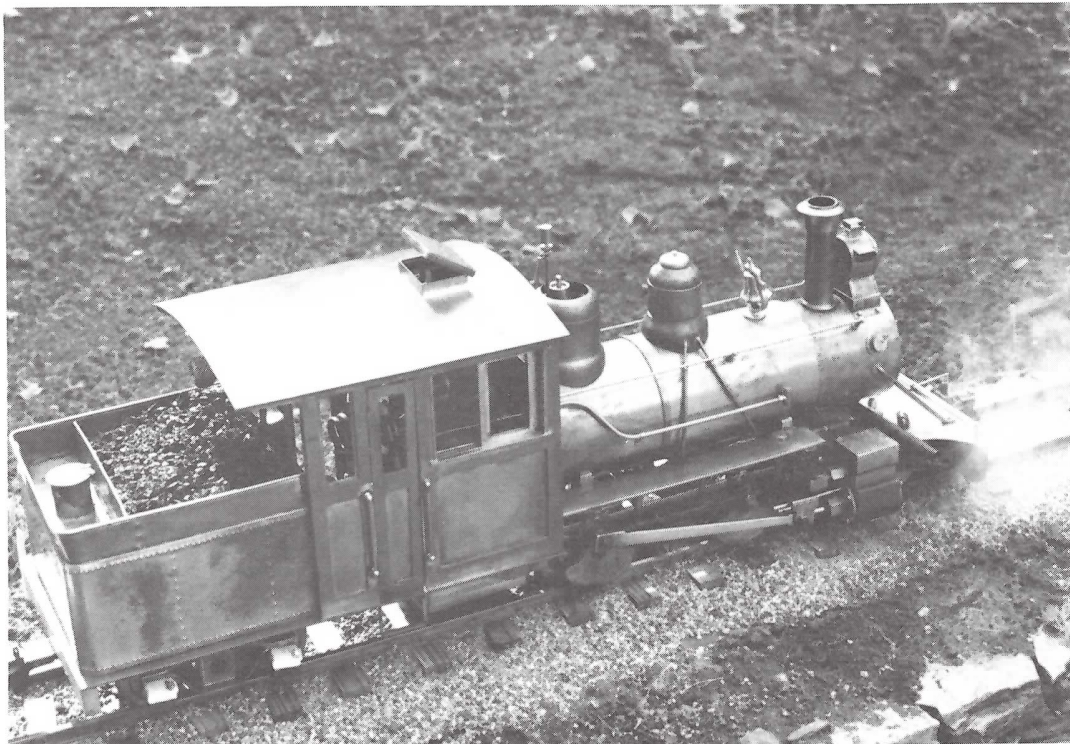
Bob Raikes's project loco is still coming together and looking much more complete than our last look at it. Sorry to say that we have no additional info on this little beauty, but we hope that when it's completed it will be written up for an article in SitG.

Photo by Samuel Muncy



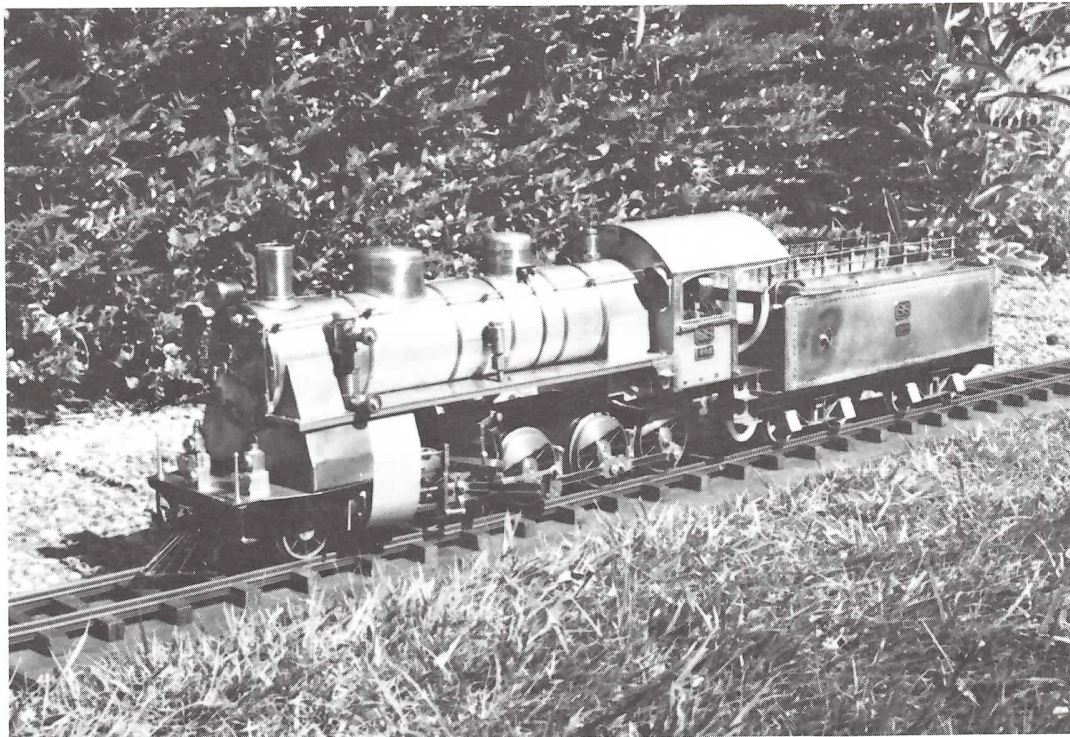
This fascinating and beautifully crafted chassis is one of two that was built by Leonard Cooper of Colliersville, New York on a contract from the NYC Railroad for display at the World's Fair in 1939. It's 3/4" scale, but built to run on 3-1/4" gauge track to be compatible with the Buddy L line of toy trains. Sadly, Mr. Cooper passed away in 1939 before he could complete the project.

Photo by Roger Caiazza



Vic Sager's scratchbuilt Forney, WW&F #7, blowing the cinders, clearing the leaves and "shifting the odd cat", as our own Sage of Simpson Cross might say. According to Samuel Muncy, West Coast Steam Scene contributor, Vic built this beauty with talent, skill and a few Roundhouse bits & pieces.

Photo by Samuel Muncy



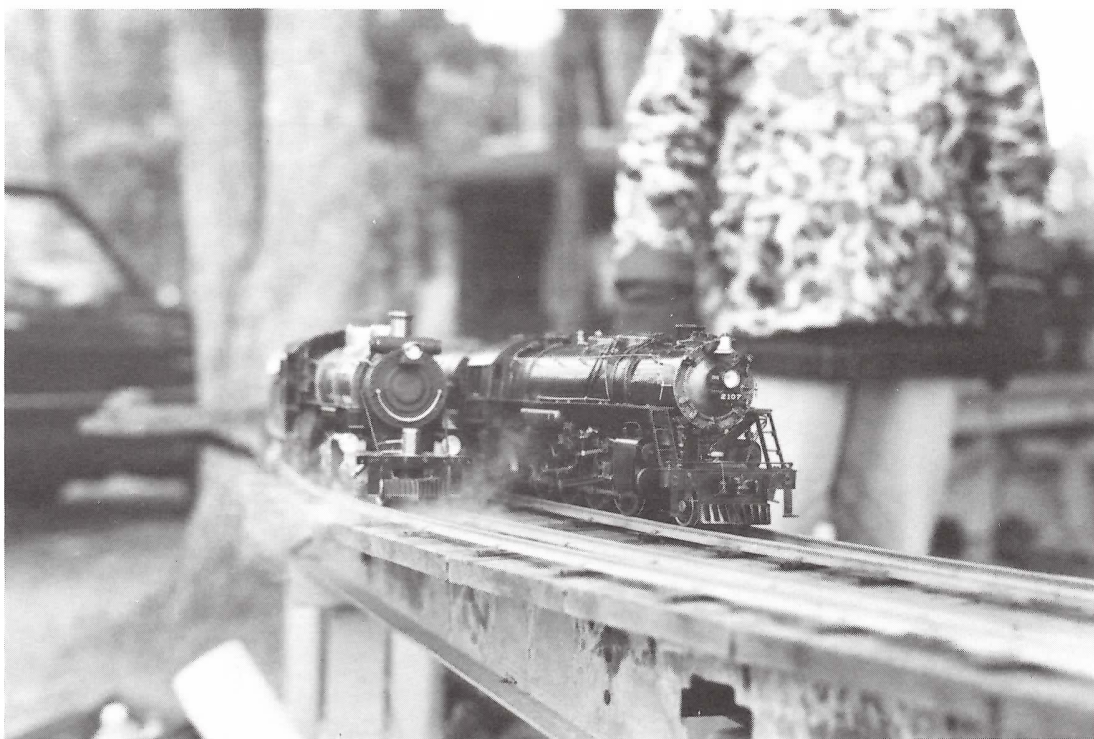
Information on this loco is a bit limited, but we do know that it's another superb job of scratchbuilding by Fred Jantzen in Holland, and that it's built to G-scale. Fred is not only a master locomotive builder, but is very prolific, having built many museum quality live steam locos.

Photo from the Peter Jones Collection



October 17th, 1992 - Bangor, Pennsylvania. Harry Quirk's Americanized Mikado #2107 leans into a short coal drag.

Photo by Paul Quirk



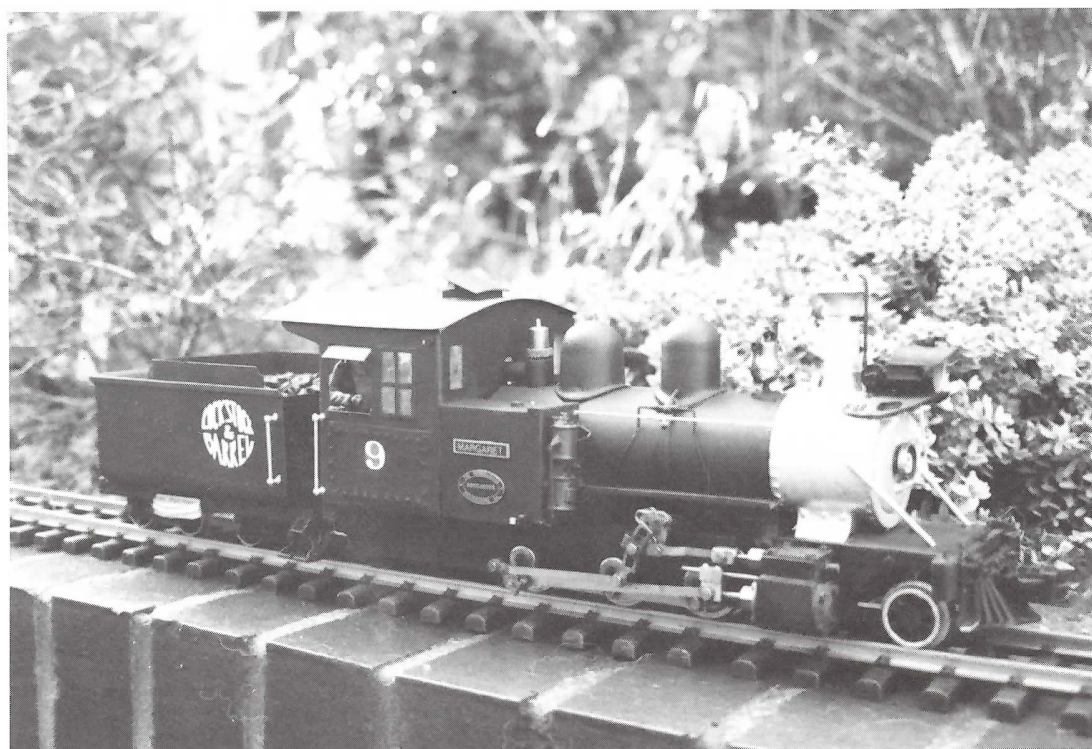
Rudy Houhoupt's new Prairie, with passenger consist in tow, overtakes the coal drag on the double track main.

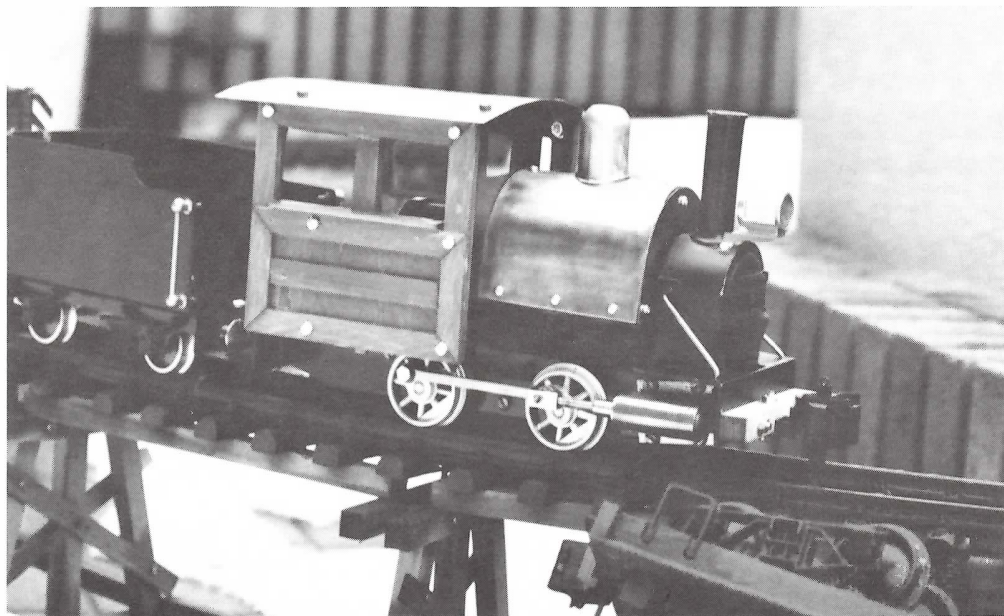
Photo by Paul Quirk



Lockstock & Barrel #9, **MARGARET**, fresh from the shops, pauses for a photo opportunity while the crew checks things out in the cab. The fireman appears to be pondering the task of draining and refilling the displacement lubricator while under steam. Believe it or not, Don Beach, loco builder par excellence, created this American beauty from a Roundhouse Lady Anne! Don has promised to tell us all about his project, *"Americanizing the Lady"*, in an article appearing soon, right here in your favorite steam magazine.

Photos by Don Beach



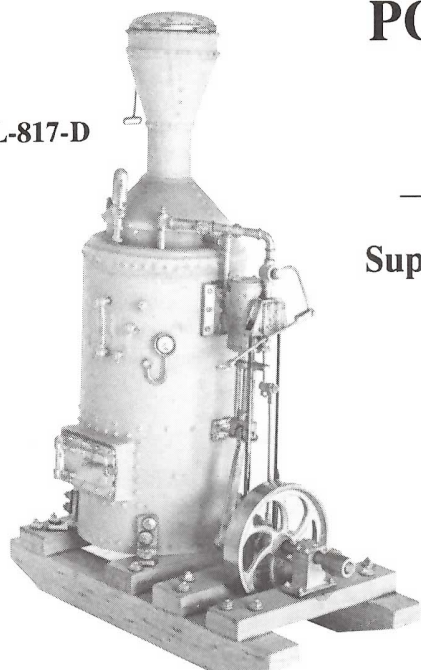


Richard Finlayson's Americanized Mamod project is coming along nicely. Rich tells us that this great looking little loco runs as good as it looks. He adds, "Next trip to the USA I'm going to try to find brass nuts, bolts & screws to replace the more mundane slot heads." Rich didn't give any details, but it looks like he's using MSR spoked wheels and replacement cylinders, and the headlight and mounting bracket appear to be Trackside Details parts. We hope he'll share more information and photos when the project is complete.

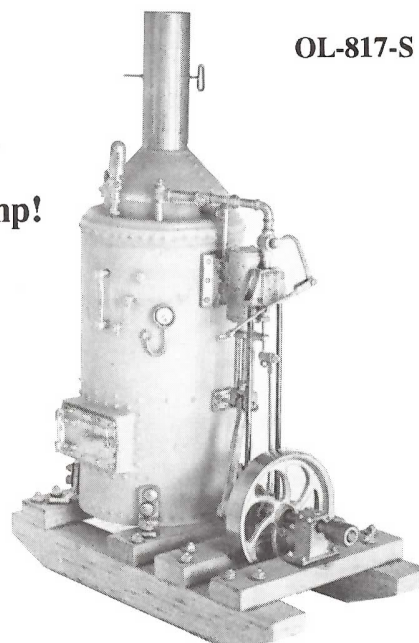
Photo: Richard Finlayson

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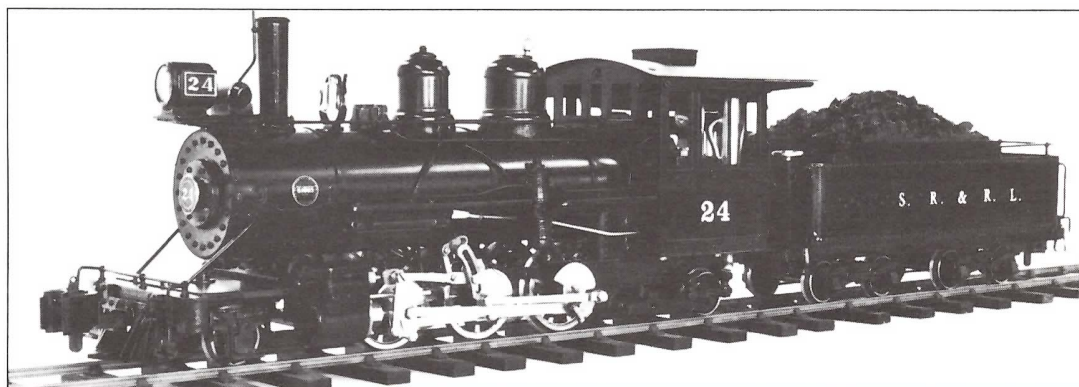
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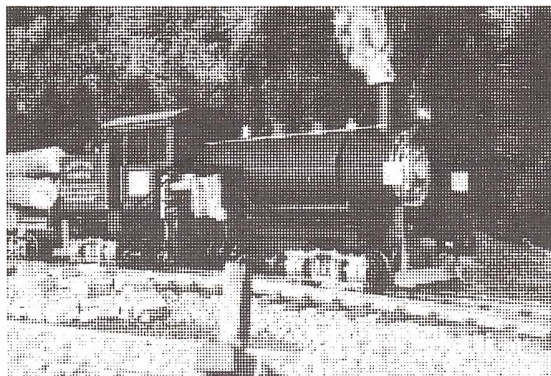
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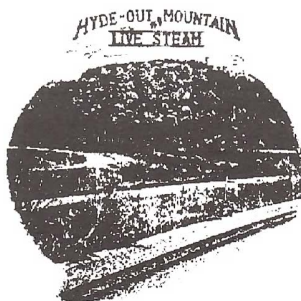
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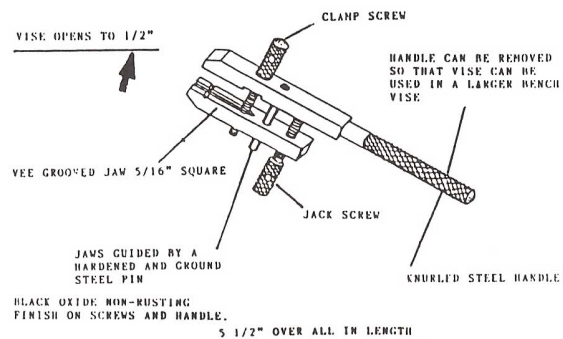
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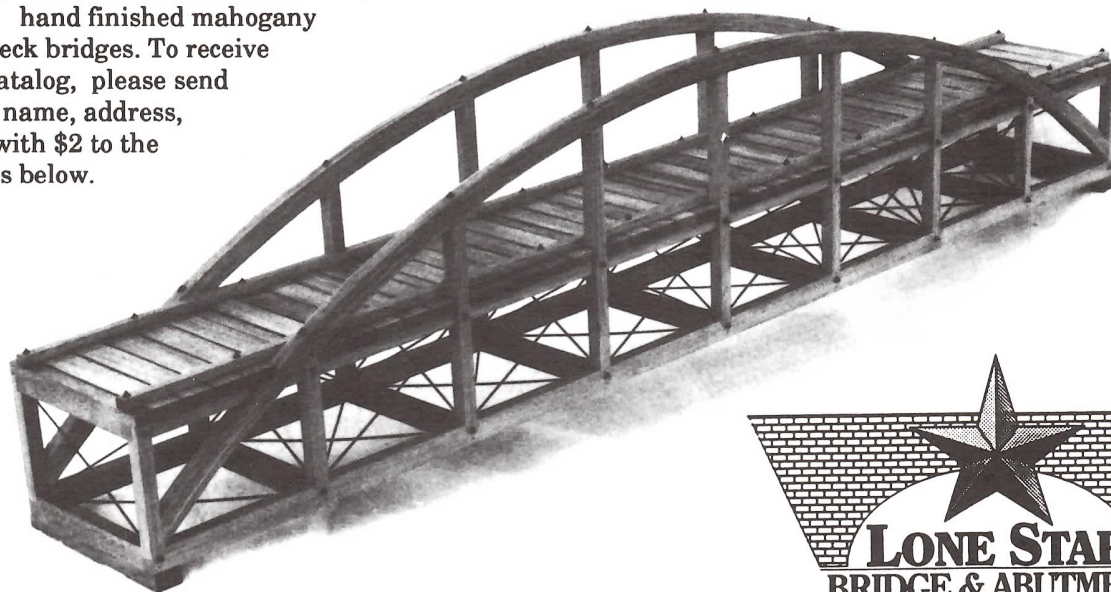
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For the benefit of all those that have been asking me when SitG was going to get a FAX machine, I'm pleased to announce that we finally have one of our own. The availability of a FAX will make it much quicker, easier - and in many cases less expensive - for advertisers and contributors to get the very latest and most accurate information to us, right up to deadline. After a couple of weeks of trying to juggle a telephone, FAX machine and answering machine - all on the same line - we gave up and had a dedicated FAX line installed. So.....feel free to send us a FAX anytime, day or night. The machine is on 24 hours a day so senders can take advantage of lower phone rates during the wee hours - and for those folks "Down Under", who are sleeping while we're out generating some steam in our garden. Our voice phone number remains the same - 607-642- 8119. The FAX number is 607-642-8978.

Good News & Bad News

As the old saying goes - I've got some good news and some bad news. The good news is that the First National Gauge One Steamup was a smashing success, with praise and good reports coming in from every part of the country.

I don't know how many people have thought about it, but this was truly a landmark event - the first of it's kind in this country. Small-scale live steam may still be relatively tiny in this country, but we're growing - and what we lack in numbers we more than make up for in enthusiasm!

A significant number of live steam enthusiasts, representing interests as diverse as mainline steam and narrow gauge steam, and running on both gauge 1 and gauge 0 trackage, were in attendance. I've heard it said that mainline steam and narrow gauge steam interests just don't mix, but this event proved this myth to be totally false.

The bad news is that we weren't there! Believe me when I tell you that there was much weeping, wailing and gnashing of teeth going on in Newark Valley when the weatherman hit it right on the button for a change and we had ice, freezing rain and the most

treacherous driving conditions imaginable. By the time it cleared up on Thursday, there was just about enough time to drive down, say "Howdy!", and head back home again. Sorry, but as much as I love a steamup I'm not ready to drive six days for one day of steaming.

More good news is that it was such a success that the 2nd Annual National Small-Scale Steamup is already scheduled for next year - same time, same place. With apologies to Jerry Reshew, the organizer and promoter of this event, I took it upon myself to leave the phrase, "Gauge One", out of the title for next year, as there were reportedly lots of gauge 0 locos and enthusiasts in attendance this year. Enough so that there will be purpose-built, elevated dual-gauge or gauge 0 trackage officially included next year. To this I can only say.....HURRAY!

We have enough commitments that I feel comfortable in promising that we'll have plenty of words and photos on the event for you in the next issue.

Congratulations to Jerry Reshew and all those that helped make this important event a great success!

Thumbs Up!

Just received today from deep in the heart of Texas is a video album from Ken & Jerra Matticks, the subject being the aforementioned National Steamup and titled Steam'in in Mississippi: 1993. Look for their ad for this videotape in this issue under Doubleheader Productions. Ken did a nice job of capturing the flavor of the event, with a strong emphasis on action. I don't know how many live steam locos were actually in steam during those 3 days at Diamondhead, but Ken has footage of a whole bunch of them. This videotape isn't a professional presentation, but it's very well done for an amateur production. There is no narrative or musical soundtrack - what the attendees heard is exactly what is heard on the tape. Like many videos shot indoors, lack of adequate lighting prevented the sharpness and total range of colors from coming through. But don't let this keep you from ordering a copy! The essence of the steamup is here, with lots of steam action and close looks at a wide variety of steam engines and rolling stock. The price is right and it makes me feel a little better about missing all the fun this year - but next year we're going to fly instead of drive!

Gotta Hit the Books Again

For those that have a glimmer of interest in the technical aspects of what it takes to put an issue of SitG together every couple of months, here's the latest. We've got new desktop publishing software that features, among other improvements, a spelling checker. This means that there should be fewer typos to put up with in future issues. Providing I can find time to get through the learning curve before it's time to start hammering out the next issue, that is.



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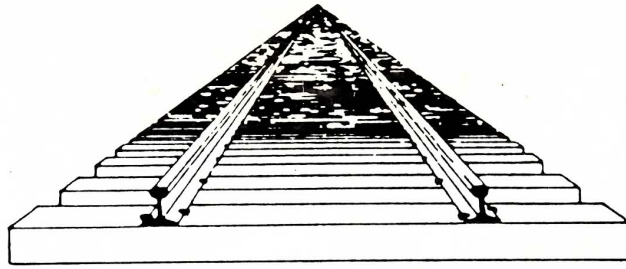
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