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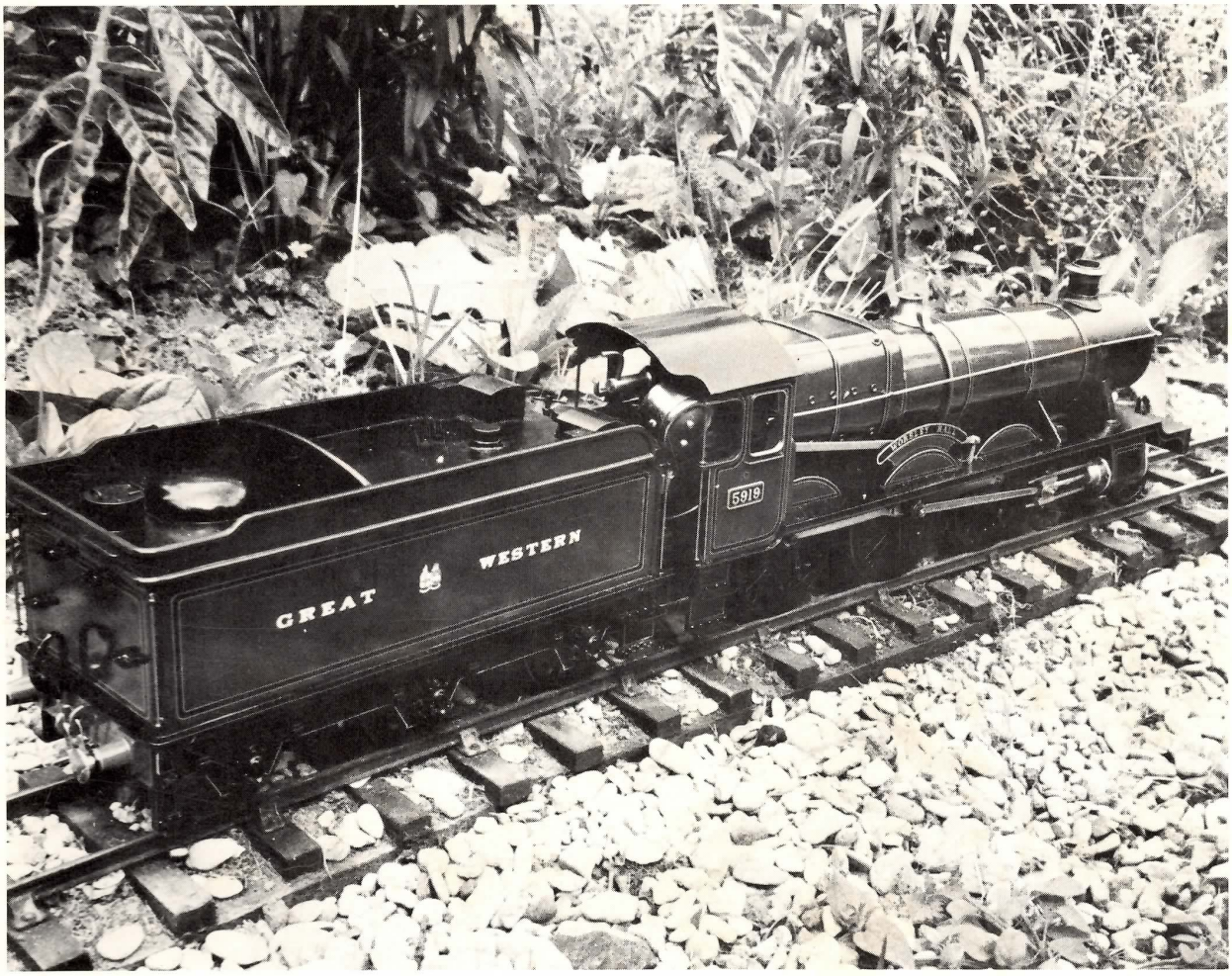
Steam in the Garden

Magazine

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

Volume Three Number Five **March/April 1993**



INSIDE.....

Loco Review - Roundhouse Engineering "BILLY"
Photos and Report on the First Annual Gauge One Steamup
News, Opinion and Commentary on the Live Steam Scene
And Lots More.....

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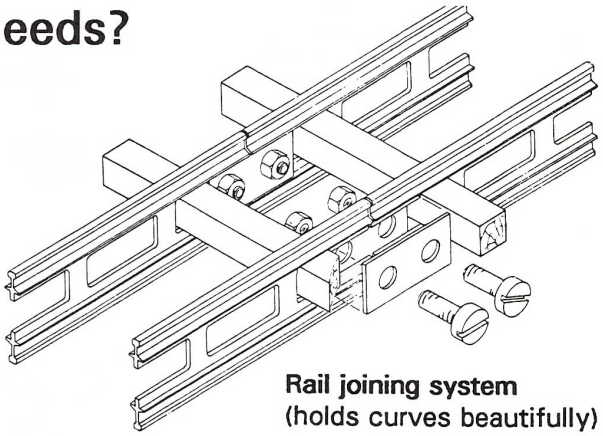

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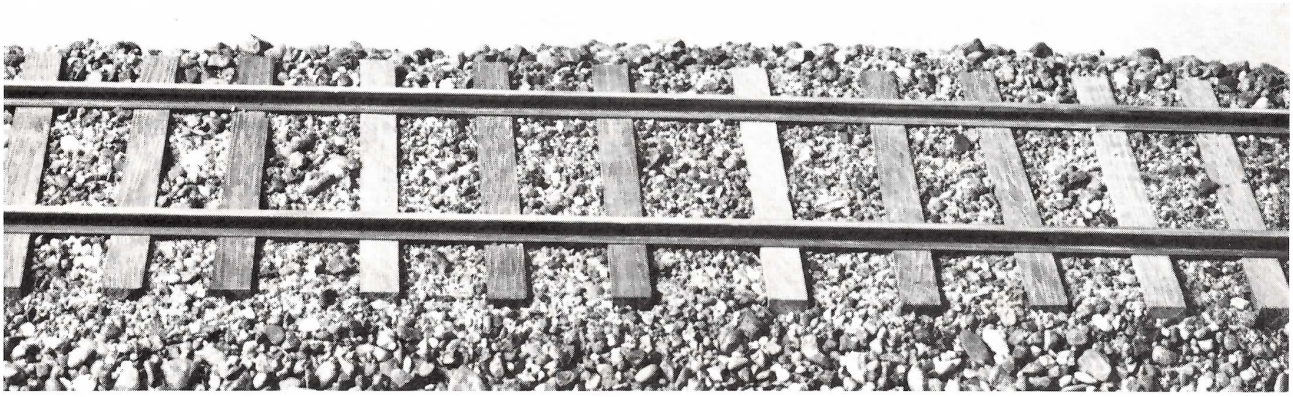

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PERFORAIL

ON THE COVER:

O Gauge, 7mm scale, ex-GWR Worsley Hall 5919. High pressure, internally spirit-fired. Photo ex-Jack Wheldon collection, currently in 16mm Today collection. Sorry, no information is available on the builder of this fine locomotive.

Photo by Peter Dobson

Bored? No Way!

The process of putting this issue together has taken us through some dramatic weather changes. First the Blizzard of '93 deposited a lot of snow on the ground in our neck of the woods. We figured that our Silo Falls Railroad trackage had 80' of 1:20 scale snow on top of it in places! Then came the flooding, caused by rains and melting snow. A few days of spring-like weather teased us a bit, and now we're back to rain and flooding. But based on too many years of experience, I'm confident that spring will eventually arrive....and after a long, cold, record-breaking northeastern winter, we're really ready for some of that warmth and sunshine that other parts of this country take for granted.

Overworked Assistant and I sat on the bench at the back of our garden the other day with the early morning sun warming our faces. We enjoyed a few peaceful minutes together at the start of a new day, looking over our railway and discussing what's to be done with it this year. No lack of things to do here!

Our new basement workshop is finally completed, and we started moving in the workbenches, lathe, mill, drill press, cabinets and other goodies last night. If I work at my usual rate of speed, it should be organized and in use by '94 or '95. Once organized, there is no lack of projects to occupy many happy and rewarding hours there.

There are lots of things going on here in Paradise East, and we hope that your life is as full and interesting as ours.

If things seem a bit dull to you, then this issue should fill your cup to the brim. Lots of wonderful new steam locos are on the way, along with plenty of other goodies to keep the live steamer and the garden railroader grinning from ear to ear.

So get steamed up and enjoy life! Who's got time to be bored? Until next time.....

Happy Steaming!

Ron

Vol. 3 No. 5
Issue #17
March/April 1993

Articles

Departments

Steam in the Garden Magazine

Publisher/Editor
Ron Brown

Overworked Assistant
Marie Brown

Artwork & Drafting
Harry Wade

Contributing Editors
Crankpin ..... The South
Rick Drescher ..... Washington
Mark Horovitz ..... Colorado
Peter Jones ..... Wales, U.K.
Stumpy Stone ..... Ohio

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

Salem Steam Models, Brynglas, Salem, Llandeilo, Dyfed SA19 7HD
or
Brandbright Ltd., The Old School, Cromer Road, Bodham, Near Holt, Norfolk NR25 6QG - phone 026-370-424

Items for review should be mailed to P.O. Box 335, Newark Valley, NY 13811 or sent via UPS to 6629 SR 38, Newark Valley, NY 13811.

Questions or comments? 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 so everyone has a chance to use this forum. Send your contributions to: SitG, Dept. RPO, P.O. Box 335, Newark Valley, NY 13811.

* * * * *

Virginia Beach, Virginia

Dear Ron,

Renewal check enclosed.....Great Job! I like:

(1) Construction techniques and articles
(2) Crankpin's column
(3) Peter Jones' column
(4) Steam/Battery only (leave LGB/Big Trains for Marc!)

How about a series showing how to convert our too-fast Mamods to something else (geared locos?). There are a lot of us with too-fast Mamods - or maybe just too many Mamods.

For example, could we convert a Mamod to a very simple 2-axle, 4-wheel "Gold Bug" Climax (freelance, of course)? What do you think?

Tom Sullivan

* * * * *

Berwick, Pennsylvania

Ron,

ALERT TO SitG READERS. Anyone who has not been with this magazine from Issue #1 take note. Our editor was a very busy man this past year, and those who do not have a complete set of SitG should act quickly to secure the wealth of knowledge available in the back issues - just in case he rests up and decides to charge what they are worth! Mine got quite a workout when I received an engine that would not run. Don't hedge, it's a bargain for keeping your pressure up!

Regarding the WVRR #5 article in Vol. 3 No. 3.....Great job Jack - and it runs like a fine watch, too!

Early Spring!

Dan Long

Dan is right, folks! Faithful Assistant recently made up 25 copies each of every back issue we are out of, and it took so long and used so much expensive toner that we've decided not to do any more reprints. If you want any back issues - particularly those from the first year (Volume One) - better order them now. When this last batch of reprints are gone, they're gone forever. -ed.

* * * * *

Wyoming, Pennsylvania

Comment on Editorial:

The National Gauge 1 Steamup name isn't broken, and doesn't need fixing. Leave well enough alone! Changing the name to reflect every SIG will only confuse the issue to the detriment of all. But enough.

Photo coverage was notably lacking in this issue, but you can make up for it by copius coverage in color! Soon!

The latest high-tech improvements are quite impressive. It appears we have a high-tech, high-gloss mag focused on the lowest-tech, lowest gloss part of the hobby. The search for the Grail is still on.

Doug Glatz

* * * * *

San Francisco, California

Dear Ron,

Here's my order for issues 1-14 of SitG. I got distracted by a scratchbuilt 0-gauge SP GS-2, but have gotten its hash settled at last.

Re: Peter Jones' ideas about loosening frozen screws - here's a tip from Herb Wuesthoff, who restores pre-WW II Rolls Royces. Soak the frozen parts in penetrating oil *(Liquid Wrench works good - ed)*, then tap lightly with a small hammer. It may take 5,000 strokes spread over a week, but it almost always works eventually. Go easy and be very careful not to break the screw(s) out of over-enthusiasm.

Best,

Reg Stocking

* * * * *

Irvine, California

Dear Ron,

Your new issue *(January/February 1993 - ed.)* came last weekend and was excellent. The printing is much improved. Enjoyed reading the Peter Jones article, and in particular his postscript. Does anybody you know of in the USA or U.K. make "steam road vehicles"? Do you know if kits are available? It might be nice to have one with radio controls

running around. I will be in London in April with an extra day - can you recommend any particular company that I might visit regarding a Shay or an 0-4-0 loco with radio control?

Best regards,

Philip Alspach

Thanks for your comments about the improvement in quality in SitG #16. To the best of our knowledge there is no USA company making steam powered road vehicles. The good news is that there are lots of firms in the U.K. offering everything from rough casting sets & drawings to fully machined kits to complete, RTR models in several scales.

A source for very high quality castings for steam locomotives, traction engines and other steam powered road vehicles is the A. J. Reeves Co. in England. They are represented in the USA by Peter Martin, 22 Stratford Ave., Greenlawn, NY 11740 - phone 516-266-5056. I just bought a ROMULUS 7-1/4" gauge loco kit from them and, though I haven't had time to start construction of it yet, I'm very favorably impressed with the drawings and castings. Their catalog contains lots of interesting items and is nicely illustrated.

I must plead ignorance on the subject of U.K. geography, but it seems to me that your best bet while in London would be a visit to Brandbright Ltd. (check their ad on the inside rear cover for address & phone/FAX number). Richard and Shirley Longley would be happy to show you products from many different companies, rather than just a single product line. - ed.

* * * * *

The South

Dear Mr. Brown,

It does not take a scholar in the behavioral sciences to know that old habits are sometimes hard to break, especially when they have been practiced with every success over a period of many years and by more ornery and capable old codgers than me. It is with that in mind that I must inform you that the On-Mark Optical Center Punch which I recently obtained from SitG has in a period of a few months almost completely displaced the techniques which I have for so long held, in terms of speed and accuracy, as infallible and unsurpassable. I would never have thought that possible.

It cannot be denied that the technique required to accurately locate a center mark with the Optical Punch does require a few extra moments of care. Also, due to the minimum flat area required to support the body of the Optical Punch, I have found that it is difficult to center pop the very smallest bits, and in those instances I must then revert to my former ways. However, if your workpiece is of sufficient surface area, and the accurate positioning of your center pop is more important than saving a few seconds of time (and I believe that it certainly should be), then one could do no better than to have this center punch at one's workbench.

I offer the usual disclaimer.

Regards,

Crankpin

* * * * *

Tokyo, Japan

Most Honorable Editor,

What a kick to see my humble Porter project in the photo section of the last SitG (January/February '93). I have to tell you I was a little shocked, because that Porter was quite an "all thumbs" project.

In retrospect however, that little Porter means a lot to me because it was my first attempt at working in metal after completely forsaking my plastic, 18 volt past. I've come a long way since then, with your help and the words and advice of the sages in SitG.

Even though my Porter is rough around the edges, it holds a special place for me because it marks my jumping-off point into steam.

I've included a few recent pictures of my latest "bashes" to show what your guidance and direction have inspired. I am earnestly hoping that I can soon start a scratch project, referring to the recent articles on machine tools in the pages of SitG. Just like my first attempts at bashing, I'll start with a simple oscillator engine and see where it goes!

I sincerely "Thank you" for your devotion to this delightful obsession!

Yoroshiku,

Richard Finlayson

* * * * *

St. Marys, Kansas

Dear Ron,

I am enjoying SitG. The project for this year is to create space in the yard for track, and to get at least a loop running. Between now and that point, much dirt and rock are going to have to be moved, and the temperature is going to have to get much warmer.

Given the number of foreign sources of equipment and supplies, I would like to suggest an article for us who have never ordered overseas. A short article with tips, advice and do's/don'ts on such topics as communicating, U.S. Customs, coping with exchange rates, payment methods and shipment damage would be appreciated.

Sincerely,

John D'Aloia Jr.

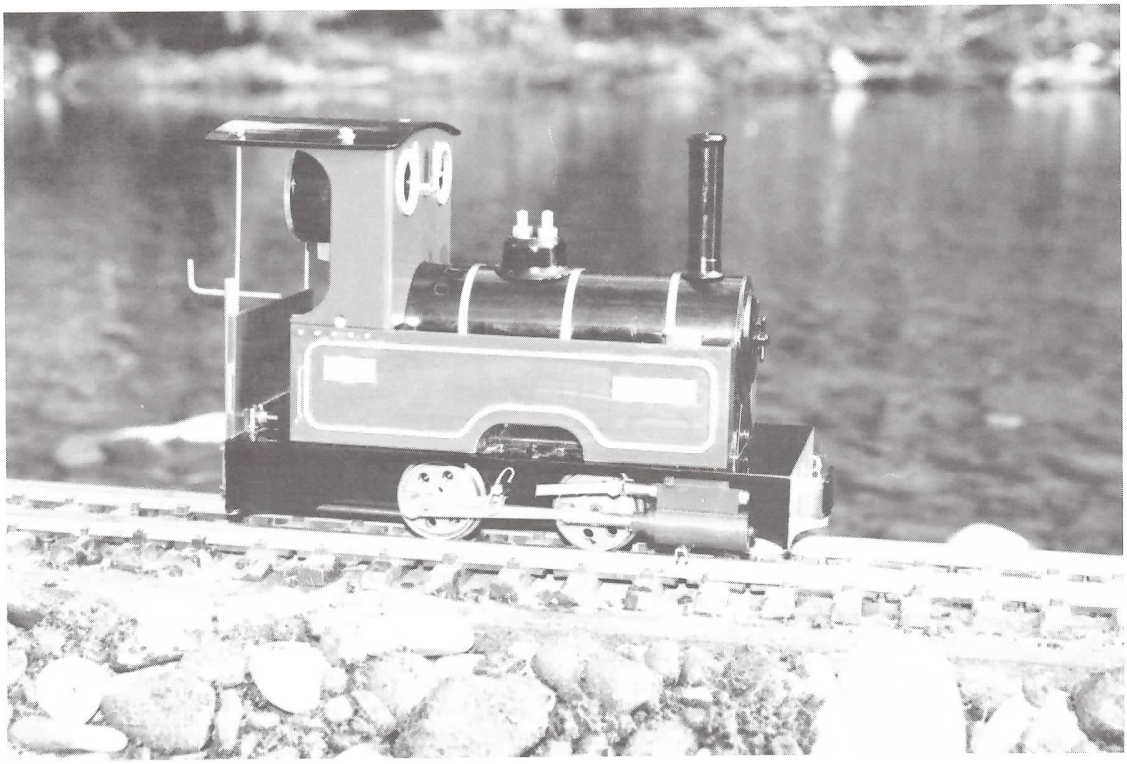
Good idea, John. It's been a long time since we last wrote on this subject, and I'm sure that we have a number of new readers in the U.S.A. that would benefit from this information. Any overseas mailorder veterans out there that want to write up an article on this topic and submit it for publication? Drop us a line or give us a call so we don't end up with a lot of redundant effort. - ed.

What's New?

Little Railways, 1621 Cherry St., Williamsport PA 17701 announces some new additions to their line of castings. The first is a top lever actuated whistle. Cast in brass by the lost wax method, our sample shows nice detail with no flash or parting lines. For more information on this whistle and a catalog illustrating all the other nifty items offered by Little Railways, send $2.00 to the address above.

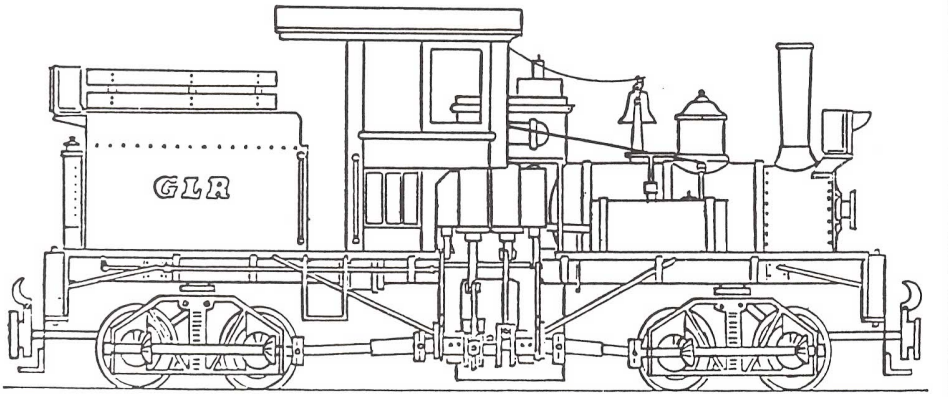
Garich Light Transport, 6101 Glenwood Drive, Huntington Beach, CA 92647 has added #8 and #12 Y's to their extensive list of trackage offerings. These items are now in production and feature insulated frogs. We received a sample of each size, both of which are neatly made using GLT's wood-grained plastic tie strips, GLT's code 250 brass rail, and stainless steel spikes. At first we were concerned about how the spikes would hold in the plastic ties, but a look at the bottom allayed our fears. The spikes are driven completely through the ties, then folded over. No need to worry, these spikes will never come out! These Y's are solid, high quality and well thought out all the way through. A nice touch is the use of brass plates on top of the plastic ties as a bearing surface for the moveable rails (points). The #8 Y measured 19 1/8" overall length, and the #12 Y taped out at 26 1/8". GLT tells us that their #4 angle crossover (which mates up to #8 switches for a double crossover) is hot off the assembly jig and will be available by the time you read this.

Steamlines, 15 Bryn-y-Ddol, Welshpool, Powys SY21 7TW, U.K., phone 011-44-938-554-728 or FAX 011-44-938-555-586, has announced a new live steam railway system, which they call Giant Little Railways. Built to 3/4" scale and 45mm gauge (gauge 1), the **inside framed** 0-4-0 Andrew Barclay "Little Giant" loco is available in fully machined kit form or factory built. It features a chassis machined from one piece of HE30 aluminum, and a cab of 1.2mm high tensile steel. The silver soldered, internally gas fired copper boiler delivers steam at a working pressure of 40psi to two 13mm bore x 16mm stroke, piston-valved cylinders. Dimensions are 8.25" long, 6.75" high, 3.75" wide and 2.65 k.g. (5.8 lbs.). Minimum radius is 60cm (24"). Speed and direction control is by a rotary valve located under the smokebox and linked to a manual, cab-mounted regulator. Mounting supports for optional radio control are fitted. Price is around £325 for the kit, which translates to under $500 at the current rate of exchange. The May/June '93 issue of SitG will have an in-depth review of this loco. Additional items planned for the Giant Little Railways system are rolling stock kits and a portable track system. For more information - write, call or FAX Steamlines at the numbers shown above.



"Little Giant" - a new 3/4" scale, 45mm gauge live steam loco from Steamlines.
Photo courtesy Steamlines

Steamlines has also announced that they have under development a 16 ton twin cylinder Class A Lima Shay. It will measure 18" over the buffer (pilot) beams, and will be available as a fully machined kit or ready-to-run. No additional details or release date for this loco were given. If you're interested, write to Steamlines for more information - and to give them an idea of the degree of interest in this loco. This input is very valuable to loco builders, and it can have a great deal of influence on when (and if) a particular loco will appear on the shelves of your favorite live steam dealer. If you want one, let 'em know!



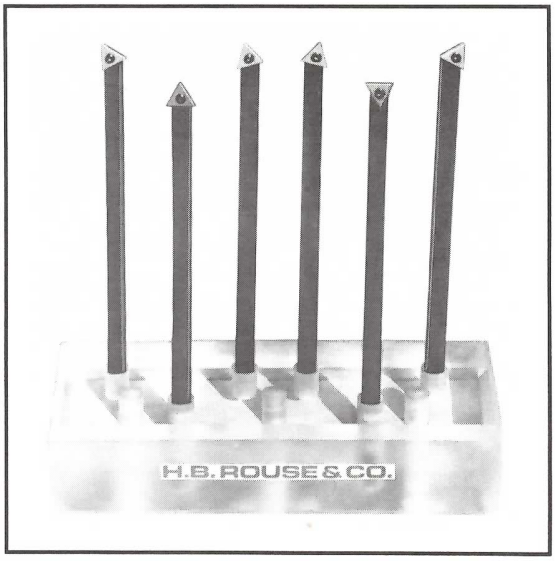
Drawing courtesy Steamlines

ASTER HOBBY CO. INC., 1-13-34 Hakusan-cho, Midori-ku, Yokohama, Japan, 226 announces another small-scale live steam locomotive in their German Federal Railways BR 98 series - BAY PtL 2/2 "GLASKASTEN". The prototype locomotives were ordered by the Bavarian State Railway just after the turn of the century, and were built by two different builders - Krauss and Maffei. The requirements were for a small locomotive with two axles and semiautomatic coal firing, so that it could be handled by just one man. Both builders came up with unusual designs, the Krauss design in particular being quite interesting. It consisted of two outside cylinders with a blind axle (jackshaft), a coal bunker raised up behind the cab, and the boiler completely surrounded by a cab with three windows on each side. These were quite successful and were nicknamed "GLASKASTL", which means "GLASSCASE". A total of 42 Glaskasten were built from 1908 to 1914 by Krauss and Maffei, 13 of them without the jackshaft. These engines were in service in various countries, including Germany, Austria, Switzerland and Norway. The ASTER model, an 0-4-0T (with jackshaft), will be built to a scale of 1:30 and a gauge of 45mm. The power will be produced and delivered by two cylinders with a bore of 10mm and a stroke of 13mm, Walschaerts valve gear, 33.5mm spoked drivers, cross-tube boiler and 3-wick alcohol burner. The price is not known at this time, but ASTER tells us that the loco should be available in July. Perhaps Gary White of ASTER Hobby USA will be showing it off at the Garden Railway Convention in Santa Clara, California in July?

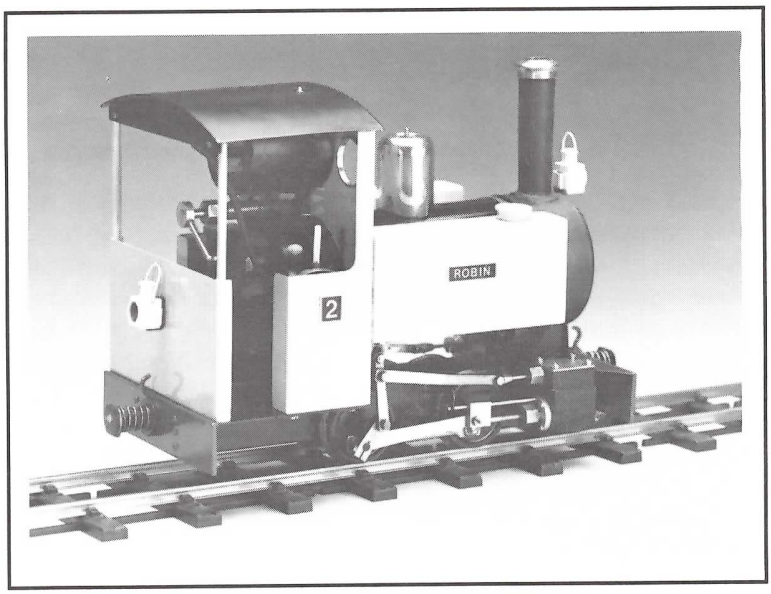
ASTER HOBBY CO. INC. has just released the LONDON TRANSPORT version of their popular and successful PANNIER 0-6-0 TANK loco, which sports a beautiful crimson paint job lined in gold and black and lettered in gold. The Pannier Tank is an attractive loco in any of the 6 available liveries, but this one is a real eye-catcher!

Brisbane Locomotive Works of Australia (North American contact is BLW, Dept. SG, PO Box 68666, Indianapolis, IN 46268 - phone toll free 1-800-999-2266 or FAX 1-317-876-5559) is now delivering Perforail, a very unique track system for garden railroads. Perforail is available in gauge 0, gauge 1 or dual gauge. Also available are kits for turnouts (switches) and everything you need to put down sturdy, realistic trackage for your outdoor railroad. We've received samples of both track and switches and will be giving you an in-depth look at this track system in an upcoming issue of SitG. What makes this track so unique? Well, a picture is worth a thousand words, so if you just can't wait for the review, check out the Brisbane Locomotive Works ad in this issue and send $2.50 for a track sample and briefing document.

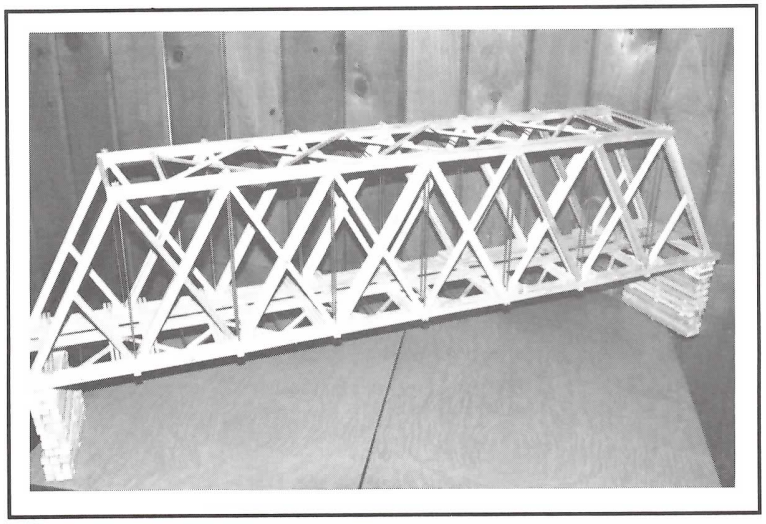
H. B. Rouse & Co., 1101 W. Diggins St., Harvard IL 60033, phone 815-943-4426 or FAX 815-943-7156, manufacturers of precision tooling since 1899, has introduced a full set of 1/4" shank carbide insert turning tools for owners of small lathes. These are very high quality tools, featuring replaceable carbide inserts and extra long shanks that can be cut to suit your needs. Available as a set of 6 with a handy stand, or individually. This company specializes in precision tooling for larger lathes and mills, and if you are doing any kind of machine work on equipment of any size, their catalog should be in your shop. Give them a call or drop them a line. We've found them to be very friendly and helpful.



Argyle Locomotive Works, 72 Garland Road, Bundanoon NSW 2578 AUSTRALIA, phone/FAX 048-836-787 (available in North America from Railway Garden Ltd., 4210 Bridge St. #5, Cambria CA 93428, phone/FAX805-927-1194) announces two new live steam locomotives - both models of North American narrow gauge prototypes. The first is a Baldwin 4-4-0 3 ft. gauge loco, the South Pacific Coast #3. This loco will be built to a scale of 1:20 and the price will be US $2200. These Baldwin 4-4-0 locos were used on virtually every North American 3 ft. gauge line in the years prior to 1900. The second loco from Argyle this year will be another Baldwin.....a 2-6-0 2 ft. gauge loco, built in 1892 as the "James Wyman" for the LR&HS RR, but sold shortly thereafter to the Sandy River RR where it was known affectionately as "Old Star". This loco will be built to a scale of 1:22.5 (for compatibility with existing Sandy River live steam locos) and will sell for US $2280. Both locos will be available with either gas or alcohol firing, and feature Stephenson valve gear, hand feed water pump, water gauge, pressure gauge and choice of couplings. R/C is available as an option. Pilot models will be steaming at the Garden Railway Convention in Santa Clara, California in July and deliveries will begin in August '93. Reservations are now being accepted through Samuel Muncy at Railway Garden Ltd.



John Prescott Engineering, The Cottage, Bickford, Penkridge, Staffs. ST19 5QJ, ENGLAND - phone 011-44-785-712452, announces a sellout out of their first run of ROBIN, a neat, chunky little loco typical of many small narrow gauge industrial and contractors locomotives built in the U.K. in the early part of this century. It has much of the look of some of the Bagnall or Decauville side tank locos, but uses Hackworth valve gear (like Kerr Stuart) for simplicity and reliability. Technical specifications for ROBIN include the following: scale = 16mm/ft., gauge = 32mm (gauge 0) - copper boiler with all silver-soldered construction and brass bushes, hydraulically tested to 180psi - boiler fittings include those necessary to refill while in steam, extending running duration to as long as the operator desires - gas-fired with butane fuel, the tank being refilled through a valve in the cab roof - burner control is located at the front of the cab, just below the roofline - slide valved cylinders of 3/8" bore x 1/2" stroke - pistons and glands fitted with easily replaceable O-rings - frames and buffer beams of brass with substantial phosphor bronze bushes for the axles - wheels and axles are steel, coupling rods are steel with phosphor bronze bushes - Hackworth valve gear and steam regulator are located in the cab - displacement lubricator located in cab - bodywork of nickel silver, screwed together for quick removal and easy maintenance - brass spectacle plates and brass steam dome - etched name and number plates are included - smokebox of nickel silver with stainless steel dart and brass chimney with polished brass cap - standard paintwork schemes include frames, wheels and cab roof in satin black, buffer beams in gloss red, smokebox and chimney in matte black, boiler in gloss black and bodywork in your choice of maroon, dark green, black, light blue or light red. ROBIN is priced at £475.00, and can also be purchased as major sub-assemblies (such as chassis or complete loco without bodywork) for those that prefer to do some of their own work. The next run of ROBIN locomotives are scheduled for completion in late April, so get your reservation in soon to ensure having one of these locos in your shed for the '93 running season.



There's nothing like a bridge or trestle to serve as a focal point on your garden railway. **Endless Mountain Miniatures, RD2, Box 154 B, Montrose, PA 18801 - phone 717-278-3541** has a nice variety of bridges and trestles available for the '93 garden railway season, all neatly constructed of cedar and threaded brass rod. Our sample bridge, a magnificent Warren Truss, measured 50" long x 11" high x 8" wide. It is built solid, straight and true, and all joints are tight and gap-free. The price on this bridge is a very reasonable and affordable $144.00 plus shipping. Contact EMM for information on the other bridges and trestles in their product line.

When contacting any of the firms listed here for more information on their products, please tell them you read about it in Steam in the Garden Magazine.

The Steamchest

by Marc Horovitz

Notes On Coal Firing For The First Time

Last summer I acquired my first coal-fired small-scale live steamer. The engine is one of a pair built by Mike Gaskin of Great Britain. It is called ***Ceylon***, and is a largish 0-4-0 with a tender. I waited a good long time to receive it, not that that has any bearing on the story. I was just glad to finally get it, that's all.

I'd given a fair amount of thought to coal firing before, and quite honestly hadn't come to any real conclusion about it. I knew that people who had done it thought the world of it, but there was something about it that just didn't click with me. Some years ago I saw a coal-fired Archangel ***Jack*** in steam on a garden line in Britain. The engine ran well, but keeping it going was fairly labor intensive, certainly more so than with a meths-fired locomotive. I was not impressed much one way or the other, I confess. I always thought it would be nice to have a coal-fired loco, but never took definite steps to acquire one until Mike Gaskin's loco was offered.

So, the engine arrived. It was a chunky, attractive thing, so I kept it on display at my office for awhile. Finally, it made the migration home in time for the annual Sidestreet Bannerworks Small-Scale Steam Up. It's always a risky thing, running a newly acquired engine for the first time in front of a crowd. However, since I was among friends (mostly) I decided to take the plunge. I needn't have worried.

To fire up a coal-driven locomotive, one must first get the fire going. This is a more interactive game than setting fire to a meths or gas engine. In fact, it almost puts these more common locos in the category of electric trains, as regards ease of operation. You've got to get the fire going with charcoal, usually soaked in alcohol. People always told me, "You've got to fill the firebox really deep — right up to the bottom of the firedoor." Yes, scale-wise that does make a very deep fire. However, in the real world fire is one of those funny things that just doesn't scale down very well, so the actual depth of the fire isn't really that much at all.

I took out a charcoal briquette and broke it in two. One half was further broken down into small lumps, and these were duly soaked in alcohol. After they'd been submerged for awhile, I used the tiny shovel supplied to fill up the firebox with them. This done, the suction fan was stuck on the stack and turned on. (If I was going to be truly traditional, I'd have used a bicycle pump!) The fire was lit through the firedoor and, with the aid of the meths, it burned nicely. I kept the firebox door closed most of the time so that the air would be drawn up through the grate. After a relatively short period, the charcoal was glowing red, and I added a few little lumps of coal. By this time a little pressure was evident, so I turned on the blower and removed the fan. For some reason, it was at this point that the locomotive began to have a life and character of its own, more than any other engine I'd ever associated with. It was a dependent being. If I left it by itself, its fire would go out and it would die. This was much more like tending a full-size locomotive — more responsibility, more work to do. And oh, the smell! I was using hard anthracite, so there was very little smoke, but the aroma was just as it should be. By this time I was definitely hooked.

All of the charcoal had burned away by now, and the firebox was full of real coal, burning brightly. As a general rule, an alcohol engine's fire doesn't vary and, while a gas engine's fire is adjustable, you never really see it. Adjustments are done by ear. A coal fire, on the other hand — even a tiny one — has a primal essence about it. It is a living element, and it is up to you to keep it alive and healthy so that it can give life to the chunk of metal in which it is burning. The fire can change in a moment. It can grow thin and weak, or it can be smothered by the addition of too much fuel. The tiny shovel must be wielded with care, and the fire poked now and again to keep it breathing freely. There is considerable pleasure in just sitting and tending the fire, keeping pressure up in the boiler. Heady stuff, this.

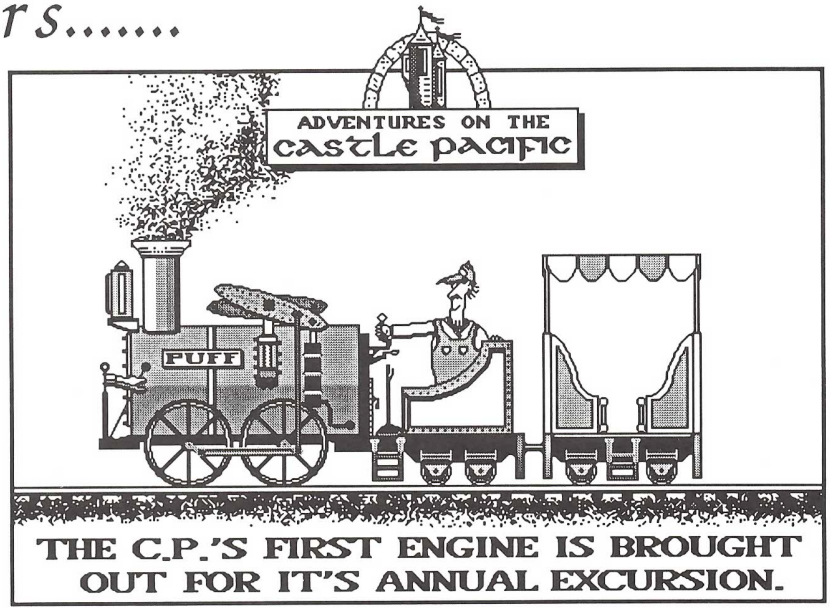
The engine was finally ready to go. Coal puts out a lot of BTU's, and the clock had come up to 60 psi fairly rapidly once the fire found itself. A boiler with this much pressure gives its engine a fair amount of spunk, and my wee hot beasty took off with a start.

Running this engine was not a great deal different from running any other locomotive that demanded a fair amount of attention. Water had to be checked often, as did the fire, and relatively frequent stops had to be made for fuel. However, a run of five minutes unattended was not unusual. And it was, of course, possible to keep the engine in steam indefinitely.

So, what's the bottom line? What's the point of this ramble? Just this: Coal firing is a completely different experience from meths or gas. I didn't think it would be, but it is. It's one of those things that you have to try to understand. There's no such thing as vicarious experience when it comes to coal. When watching someone else do it, the thought that comes immediately to mind is, "Is that person crazy?" But believe me, coal firing is cool. It's where it's at, it's what's happenin'. Don't take my word for it, though. If you ever get the opportunity to take charge of a coal-fired small-scale steamer, even for a little while, don't pass up the chance or you'll live to regret it.

CEYLON, running light and looking right at home in this spartan setting, heads into the setting sun.
Photo by Marc Horovitz

Rick Drescher's.....



Gazing Into the Fire

by Peter Jones

Shooting Interesting Troubles

The small steam engine is basically a simple machine. There aren't too many things to go wrong. The only real problem is that, often, it isn't a case of Go and No-Go. Performance can tail off slowly and the cause of the malaise can seem quite vague.

If a loco is under the weather, there are some useful "IF, THEN, ELSE" diagnostic procedures. The commonest problem is running short of steam. If the engine runs for a few seconds, then stops (particularly in bad weather conditions), it is using steam faster than it is generating it. Provided you know that the loco CAN run properly, then it follows that something has gone wrong.

Look for: Poor quality spirit, water in the spirit, wicks need adjusting ,and gunge on the underside of the boiler. Often the symptom is a yellow flame and a different, stronger smell. Try the spirit in another engine, known to be reliable. If possible, substitute a known good burner. Clean the underside of the boiler anyway, using a commercial auto degreaser or scraping with a piece of hardwood.

If the loco hasn't generated steam well since an overhaul, suspect something in the boiler to cause priming - like traces of oil or solder flux. Clean with a chemical oil remover swilled round, and for extreme cases shake some small ball-bearings around inside.

The other group of problems come from the cylinders. The timing can be out, or a steam way gets blocked. One ploy is to isolate each cylinder in turn and see if it runs on one cylinder. Suspect that slip eccentric collar stops have shifted on the axle, thus affecting the timing. If it runs well in one direction but not in the other, then timing is usually the problem. If the engine is brand new, and possibly home-built, suspect the throw of the valve. And here is a case for insisting on seeing a second-hand engine in steam before purchase. Sometimes locos are sold because the valve events aren't right - and that has included Aster locos in the past.

A common symptom of derangement is this feeling that the engine is full of steam and the wheels are bursting to turn, but somehow won't. As well as valve timing, look for wheels or outside cranks that have shifted on their axles. I have been told many times that it is perfectly OK to superglue wheels, etc. onto axles, "provided it is done properly". I have lost count of how many locos I have had through the workshops where the adhesive bond has failed under heat and something needs to be done - usually pinning. In extreme cases there have been commercial locos - like the Lindale Caledonia and the Einco Sam - where the metal chosen for the wheels expanded at a different rate to the axles and thus always came loose when they got hot. On the occasions when I have encountered this, the trouble was usually fixed by double pinning.

One mysterious fault is a boiler that is in good order and blowing off, driving cylinders and valve gear that work perfectly on air - and still the damn thing won't move! Suspect a blockage in the steampipe. This may be due to a piece of grit, or a bend that has become crimped. But a more insidious problem comes when the pipe slowly blocks up. It may be due to furring in hard water areas, but there is one particularly nasty culprit. I have described the phenomenon before, but make no apology for repeating myself for the benefit of newer readers.

Once in awhile you will come across someone who runs his engine using ordinary automobile oil. People have tried to tell him of his folly, but he says that it is cheaper and easily available. He will go on to say that his engine runs perfectly - and so it will.....for a while. But automobile oil is not designed to handle temperatures like we have - PARTICULARLY IF THE LUBRICATOR IS LOCATED BEFORE THE STEAM-PIPE GOES THROUGH THE FIRE TO SUPERHEAT THE STEAM.

Under pressure, it breaks down and solid carbon starts to be deposited. There is a wiredrawing effect of very small bore pipework to encourage this. You will slowly choke off the steam supply. There is nothing you can do about pipes thus blocked other than throw them away and fit new ones. What is worse is that solid bits of carbon can get carried into the cylinders and score the bore. On half a dozen occasions I have seen good engines entirely written off over a period of 5 to 10 years. Sadly, in many cases, the engines have been sold to someone unsuspecting. In extreme cases it has meant a substantial and very expensive rebuild.

Gas fired locos are fairly trouble free. Provided that the jet isn't blocked and the position of the jet hasn't moved in relation to the pipe opening, it will generate steam. If the loco becomes sulky, suspect a blockage. Be prepared to replace the occasional O-ring or soft washer.

One other naughty practice is that of putting oil in the boiler. This makes the engine run smoother for a couple of goes - and then the oil deposited on the inside of the boiler acts as a barrier to heat transference. No matter how many times the boiler is filled and emptied with water, that oil film stays there. Carbon tetrachloride, stain removing fluid, etc. will clean it out. Rinse with lots of clean hot water afterwards. If you use soapy water, this will cause the boiler to prime and you will have to work hard to get rid of the soapiness!

Right, I think that this is enough of a catalogue of disasters for now. Given a fair wind behind you, you may never encounter these problems. But if you do, I hope that this has gone some way towards suggesting some solutions.

MIKE CHANEY

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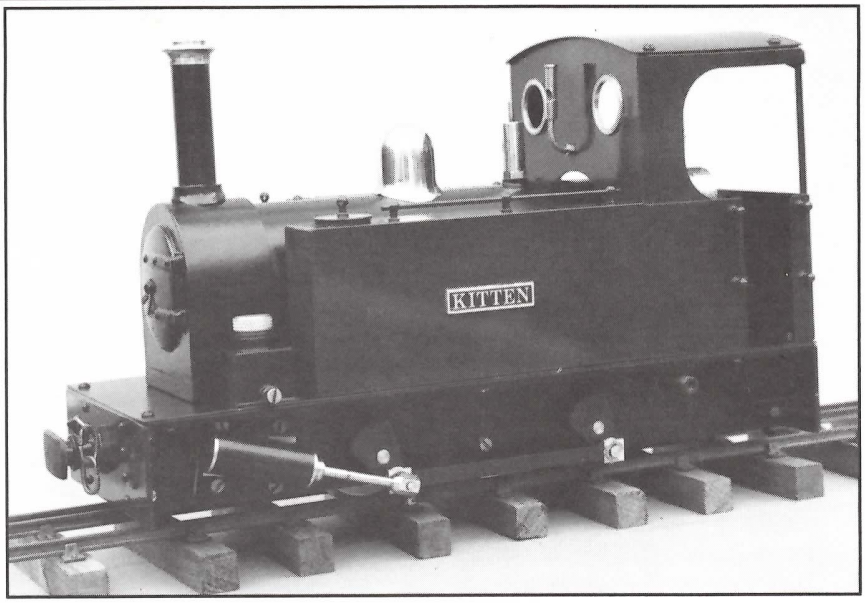

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The Fitter's Bench

by Crankpin

Matters Arising:

It was the consensus amongst those in attendance in Diamondhead, Mississippi USA at the first ever **National Gauge One Steamup** that a good time was indeed had by all. For some of us, the three days allotted were, in the end, simply not quite enough. Everyone seemed to be in the best of spirits and if there were any discouraging words to be heard, they were uttered far enough from me. I would have liked to have seen the event a bit better attended, but what was lacking in numbers, to my way of thinking, was more than compensated for by the enthusiasm of those present, and in that sense alone it must be considered a success. The event has gotten off to a most promising start and a firm foundation has been laid upon which future gatherings can be confidently built. In the gathering for the closing ceremonies, there were several proposals made for improving and expanding the event as well as a proposal for an additional event scheduled for mid-year in Indiana, all of which were met with enthusiasm. Jerry Reshew and his crew of volunteers are to be commended for their work.

On the convention floor, a great deal of information, both useful and otherwise, changed hands during the weekend and I certainly got and gave my fair share. Along with this, a number of new friendships were made and some old ones were revitalized. However, of all the many aspects of the National Steamup that I observed, the thing that was most impressive and most gratifying for me was to see the broad range of personal interests and capabilities that were represented there. These ranged from first-timers, who wandered about asking "What's this?" and "Where do you get that?", up through every level to the experienced Gauge 1 model engineer who had obviously logged many hours stooped over the lathe and at the fitter's bench. It is my hope that through these humble writings I can offer encouragement that will serve to swell the ranks of the latter category.

The seminars, in which Larry Lindsay and Jerry Hyde spoke on geared locomotive building, Gary Broeder spoke on track construction, and Harry Wade gave an informative talk on boiler making, were all well received and well attended. My sense was, however, that by far the most beneficial effect of these presentations was that they seemed to peel away a good deal of the mystery that surrounds live steam building. The end result of this will surely be that a few neophytes, who were formerly totally mystified, can now see that little locomotives are built not by platoons of Elves who come in the night, but by average people with average skills, and that a steam project may actually be within their grasp. Bravo! There should be plans for additional doses of this medicine at every gathering, and I could be wrong, but was it not Dr. Steam who said "take two seminars and call me in the morning"?

This weekend provided a superb opportunity to check out the hardware, as there were examples of just about every single available level of locomotive sophistication on display or at work on the track. Seen in action were basic home-built oscillators; the Mamods; the British products by Salem, Roundhouse, Finescale, and others - an Australian Argyle, the Hyde and Lindsay Shays, an LGB Frank-S or two, numerous Asters, present and past, a rare Swiss Spring, and several engines either running or under construction by the aforementioned model engineers. We were also very fortunate to have the proprietors or the U.S. representatives of no less than five of the currently most active locomotive makers, on hand and running their products. All in all, it was an excellent weekend for Old Hand and beginner alike, and I agree that once a year is not enough. I look forward to the next gathering.

Back to the Salt Mine:

Let us now resume discussions of drill press workholding devices and techniques which for the remainder of this episode will deal with clamping and blocking. These are the two simplest precautionary measures that one can take to provide for safety for yourself and for your work, and they will usually enable you to avoid being an unwilling participant in the type of drill press catastrophe that I described in last issue.

While on the subject of catastrophes, I certainly hope that I don't come off, then or now, as some sort of latter day Cassandra who is wont to rave on hysterically about the dire consequences of this or the disastrous effects of that. Nothing is ever so very absolute. However, I do believe that I should make you aware of this stuff, as I would very much prefer not to get a call from your attorneys or solicitors informing me that your drill press has pitched its vice into your lap and slightly altered your anatomy and that suitable compensatory renumeration shall be expected forthwith.

Be advised that there are three basic dynamic forces and resultant reactions

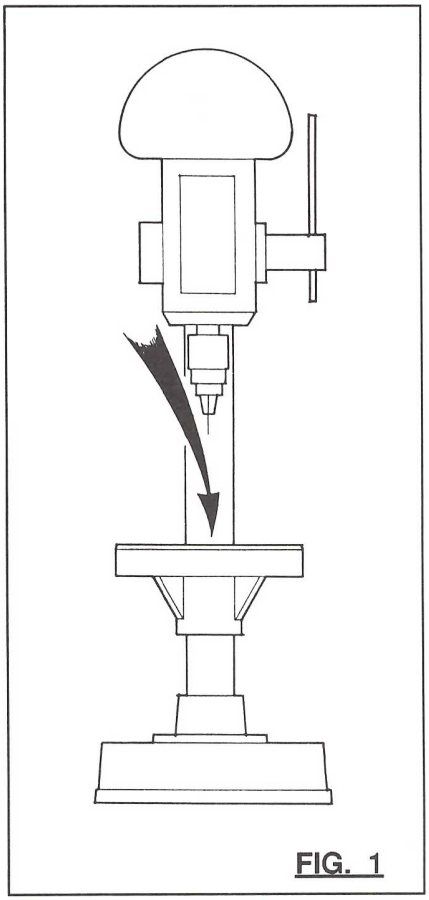


FIG. 1

that are created when the drill press is put to work, and a combination of the machine work table, the drill press vise or other holding device, and some sort of clamping are intended to counter these forces. Although I fully intend to bore you with the technicalities of these reactions in the paragraphs which follow, for the ASD (Attention Span Disabled) they are basically **UP**, **DOWN**, and **ROUND-and-ROUND**.

The least bothersome and most obvious of the three reactions is going to be **axial** (Figure 1), which is the result of the downward pressure of the drill bit being pushed into the work. (For the Dynamics scholars out there, yes I am aware that if the force is downward the reaction will be UP.) This force is usually resisted by the structural components and design of the machine itself, in the case of the drill press the worktable or the base casting. Take a look, when the opportunity arises, and you will see that virtually every drill press made has a machined flat surface on the top of the base casting for use as an additional drilling surface. Since this axial force is very predictable and always downward against the worktable, one simply positions the table at the required distance from the drill point, firmly set the table clamp at the column, and away you go.

The second reaction, which is **radial** (Figure 2), is a product of the friction of the drill bit turning in the workpiece and always has the tendency to turn the workpiece around with it. As the diameter size of the drill bit increases, so does the amount of torque as a function of

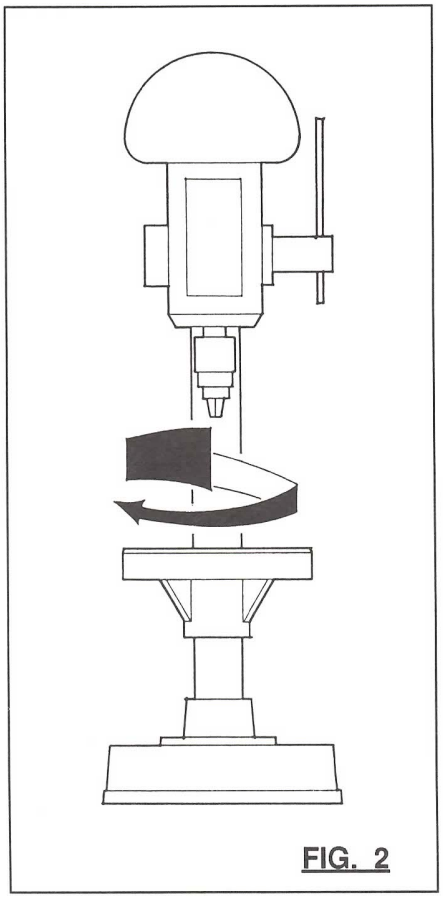


FIG. 2

friction that will be present. With the workpiece held in the vise, the torque of a 1/16" drill bit can easily be resisted by the grip of one's fingers, whereas a 7/8" bit can only be resisted by very firm clamping or blocking. I have discovered that as you approach 1/4" drill bit diameter the need for clamping increases, with 3/8" diameter being the upper limit for hand-held drilling that is comfortable for me.

This is all simply a matter of friction - the presence or absence of it. The physical laws of nature (don't expect a discourse on those here, please!) dictate that as long as the friction between the holding device (the vise, your fingers, etc.) and the workpiece is greater than the friction between the drill bit and the workpiece, everything will stay still. When that specific frictional balance is inverted - **aiee carumba**, do things start spinning and snapping! The surest way to prevent this happening is to apply some sort of stop or clamp which would increase the friction factor to a safe level. Hold-down bolts would of course do the job, but that would give you more friction (infinite, in fact) than would be needed, and they can't be moved around very quickly. You have probably noted that I have mentioned, in addition to clamping, the term "blocking" or "stop" a time or two. This simple precautionary technique is nothing more than clamping a block or strip of something solid to the drill press table against which the side of the vise (or the work itself, if large enough) can rest whilst drilling away. In many cases this will prevent a radial runaway vise or

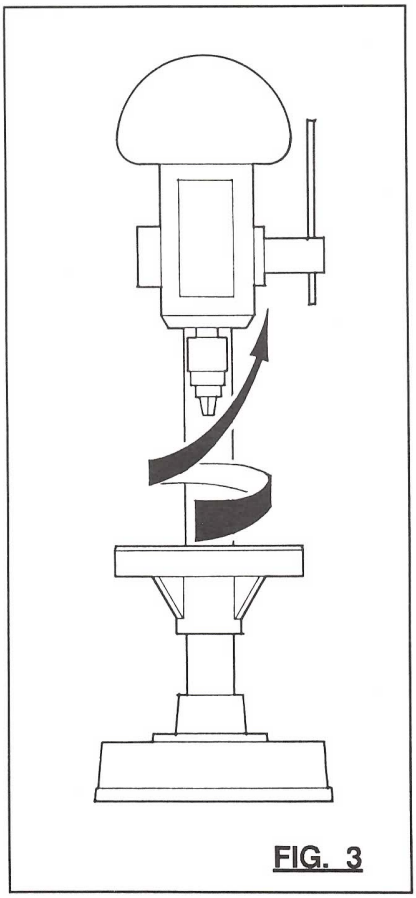


FIG. 3

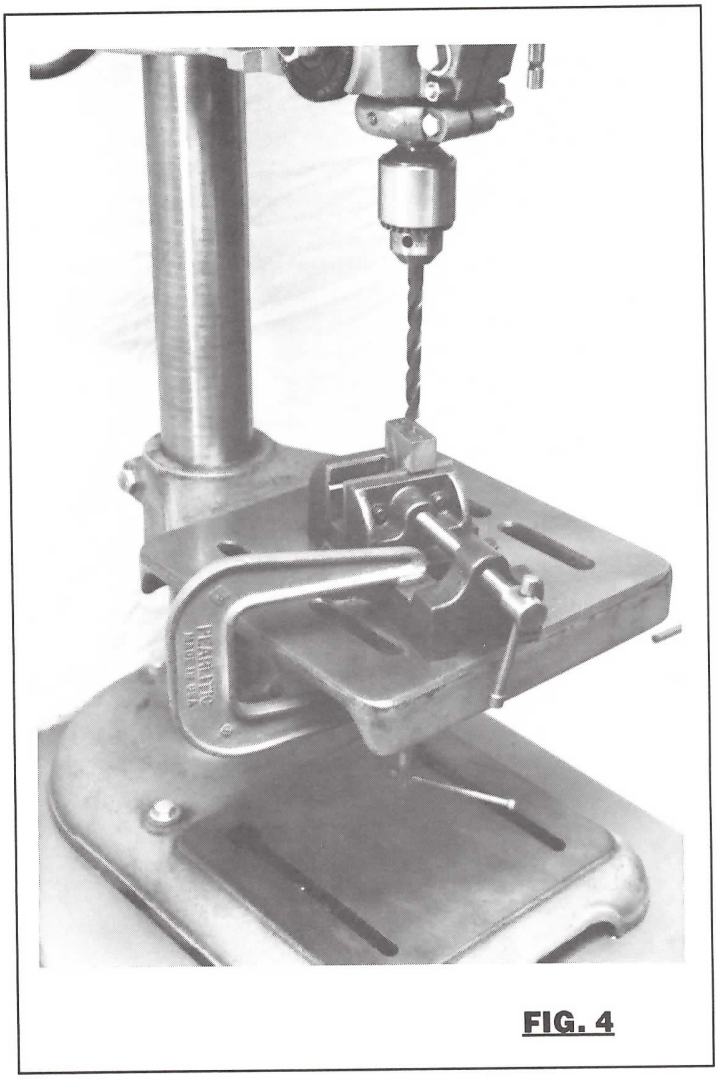


FIG. 4

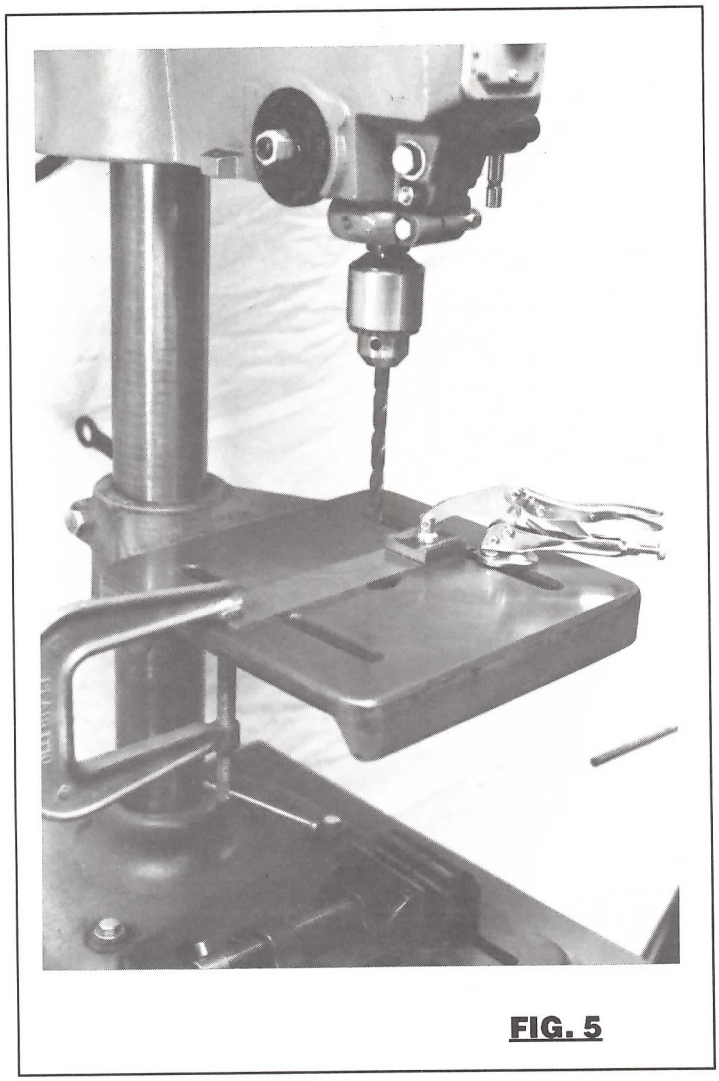


FIG. 5

workpiece should the going get rugged.

I find that a much handier device to use is some sort of garden variety C-clamp or a hand clamp, both of which are quickly and easily installed and removed. **Figure 4** shows my gnarly old machine with a drilling setup using a conventional table vise held firmly in place by a deep C-clamp. This particular clamp was obtained years ago from Sears and has a clear opening of 2 3/4" and a throat depth of 4 3/4" which allows me to clamp almost to the center of the 10" wide drill press table, but many others will do just as well.

Figure 5 illustrates yet another clamping device that has made an appearance on the market in the last year or so. This one is a purpose-built drill press clamp that is based upon the familiar "Vise-Grip" patent clamping mechanism. These are intended to be through-bolted into one of the cast slots in your drill press table. Several domestic manufacturers, most notably Rockwell-Delta and Vise-Grip, and a few importers offer models in 9" (just right for the little drill press) and 11" nominal sizes. Although one of these could be very handy to have around, I feel that at $18 to $20/US each, and somewhat more in the UK, they seem to be a bit overpriced. However, they are very well made, and one must also consider that properly used, they will last you through a lifetime of service. **A Tip from Cranky:** These clamps are capable of applying tremendous pressure and the clamping "foot" is very often deeply diamond serrated and usually hardened out. It would be advisable to either grind away the serrations or use sacrificial soft packing pieces between the foot and any work with exposed finishes, or your fine handwork will end up badly marred.

We have digressed a bit and I must return to address the last and far and away the most nasty of the three dynamic reactions, which is linear and upward and is referred to as **uplift** (Figure 3). This phenomenon, also known as "digging-in", occurs when the cutting lips of the turning drill bit draw themselves into the metal being drilled, very much like a big wood screw being driven into a block of wood. This usually results in a lifting upward of the workpiece (and anything attached to it), combined with a drastic increase in radial torque. Uplift occurs instantaneously and snatches the work from your grasp without warning, so unless you have clamped down well, this almost certainly spells disaster in the form of broken drills and ruined work.

Fortunately for all of you, I have survived a long and glorious history of dig-ins which enables me to pass along to you some fairly accurate conclusions about the materials in which uplift is most likely to occur. As always, forewarned is forearmed. **Table 1** will give us a somewhat general look at the relative drilling behavior of the common metals which we expect to encounter.

Mild steel, cast iron, and aluminum solid shapes all drill very well and do not normally produce objectionable uplift, except when breaking through the far side of a piece when cross-drilling, or in flat sheets of 1/4" thickness or thinner. As with most metals, the thinner the sheet, the more you must watch out for dig-ins. An example of a worst-case condition would be drilling a 3/4" hole in a piece of 1/32" sheet brass. (Note: If you encounter a condition such as this, save yourself a lot of grief and find a friend with a sheet metal PUNCH.)

Lastly, any of the copper alloys are especially hazardous, so when drilling anything in brass or bronze in any shape, solid or sheets, you must be prepared to deal with digging-in. If you will remember my lesson on drill bits, I allowed as how there was a drill bit for every different job and metal? Many commercial shops and a few very posh home shops (but not Cranky's) keep a set of drills with points ground especially for drilling in the cuprous (copper) alloys. These bits are ground with a **rake angle** of nearly 0 degrees which is designed to prevent the drill from screwing itself through the metal. Even when using drills with points especially ground for brasses nasty things can happen, so save yourself some banging and clanging and clamp it down. By the way, although the terms "always" and "never" appear in the table, I view through squinted eyes anyone who comes preaching those two extremes, and I make a habit of avoiding those two impostors whenever I am able.

Regrettably, friends, I must give way to those old adversaries Time and Space (and brain fatigue) which have once again conspired to clamp down on my ramblings for this issue, so for the moment I will pack it in and get back to my rat-killing. Next time we will finish up the saga of the drill press which, if you have been with us for a while, started out as a trip to the local Farm & Home Supply to get . . . uh . . . Well, I still can't remember what it was that I went for. Anyway, when next we meet I shall wind up with a few words on speeds, feeds, lubes, and another very important ability, "feel". Until then, let's all hack away at some metal every chance we get.

	Never**	Very Low	Low	Medium	High	Very High	Always**
Iron, cast or forged		■	■				
Aluminum, barstock (T-6)			■	■			
Aluminum, hard sheet				■	■		
Steel, sheet (hot rolled)				■	■		
Steel, barstock (CRS/BMS)		■	■				
Stainless Steel, barstock			■	■			
Stainless Steel, sheet				■	■		
Brass, barstock					■	■	
Brass, hard sheet					■	■	
Brass, cast					■	■	
Bronze, barstock					■	■	
Bronze, cast					■	■	
Copper, barstock					■	■	
Copper, sheet						■	

TABLE 1

MISSISSIPPI STEAM-UP

A National Event for Small-Scale Live Steamers

by Kenneth R. Matticks

A significant event in the hobby history of small-scale live steam occurred on Martin Luther King weekend in Diamondhead, Mississippi. Fifty or so small-scale live steam enthusiasts gathered at a Days Inn in this Gulf Coast community to display and run their locomotives, talk with each other, hear six notable seminars and meet many of the significant suppliers to the hobby.

This event was organized by Jerry Reshew and grew out of discussions at the annual Garden Railway Convention in Washington last Summer. The premise was that the time was at hand for a gathering focused on small-scale live steam. The Diamondhead meet demonstrated that this premise was correct.

Primary tracks and foundations were built by Jerry Reshew. Track materials were furnished by Gary Broeder of Llagas Creek Railways. The main track was an elevated two-track affair with fifteen foot radius curves. Secondary tracks, including a gauge O loop flown in at the last moment by Dan Fuller's wife Judy, were placed inside the main oval.

Tracks were located at one end of the hotel's atrium, adjacent to the meeting room used for the seminars. Around the outside of half of the main tracks were tables for steam-up and equipment display. Each of these tables had a portable steam-up stand, a custom-built "gunk" can (a coffee can with a hole in the lid) and a box of universal couplers (paper clips.)

Advertised track hours were 8 a.m. to 9 p.m. Wrong! Several people were trackside well before 8 a.m. each day, and running and visiting continued until midnight at least two nights. A room for dealers was open each evening from 7 p.m. to 9 p.m.

The tracks were in nearly continuous use, yet the group was small enough and cohesive enough to avoid the need for a track marshall or dispatcher.

Having set the stage, let's get to the little beasts themselves. There were Hyde Shays, Lindsay Shays and Aster Shays. There were Aster engines of British, Swiss, German and American prototypes. There were Argyle, Roundhouse and Finescale engines. There were several well-mannered Mamods, both home-trained and professionally modified. And there was more than one scratch-built engine.

There were freight and passenger cars of American and trans-Atlantic parentage, including a seven-car (British) Southern passenger train supplied by Barry Harper.

There were several runs of note. Leslie Hall promoted "Shays on Parade" -- a run of five Lindsay Shays on one track. Not to be outdone, two Aster Class C Western Maryland Shays made a double-headed run. The highlight of these special runs was a brace of Aster Schools Class engines pulling Barry Harper's passenger train. Even the 32mm contingent got into the act with several double-header and one triple-header run.

All of the dealers contributed to the success of the meet by the merchandise they displayed and by the information which they shared. Participating suppliers included Railway Garden Ltd., Harper Model Products, Ozark Miniatures, West Lawn Loco Works, J.J. Enterprises, Hyde-Out Mountain and Llagas Creek Railways.

Two seminars were given each day. Marc Horovitz, publisher of *Garden Railways* magazine, led off the seminars with a discussion of the history of small-scale live steam engines. This served as the perfect keystone for the entire gathering. Later on Friday, Peter Olsen of West Lawn Loco Works shared tips for purchasing used locomotives. Pete, it should be noted, also provided the water and fuel for the meet.

Saturday morning's seminar featured Gary Broeder of Llagas Creek Railways talking about track and track foundations. That afternoon, Jerry Hyde gave an illustrated talk on the construction of the Hyde-Out Mountain Shays.

On Sunday, two seminars on locomotive building were given. Harry Wade of The Willow Works talked in detail about the black art of boiler building. Larry Lindsay then discussed the design and construction of his Shays.

Jerry Reshew led a group discussion on Saturday about the successes and failures of the Steam-Up. It was agreed to hold the event again next year and to add additional tracks. It was also decided to move the dealer's hours to late afternoon.

In addition to the fun and opportunity to visit and share with other live steamers, this steam-up was a significant event in the history of small-scale live steam.

This was an *American* event and heralds the maturation of the hobby in the United States. It also marks a move

of the hobby indoors from living exclusively in the garden. Meetings inside eliminate weather considerations from planning and suggest that live-steam does not need to be a summer-only activity in the North.

This gathering set a standard for future meets and promotes the notion that other annual meets regionally distributed might be successful. That, in turn, would argue for standards for the track foundation that have, as their priorities, consistent height of the tables, established track centers at the end of each table and portability. In this way, track modules from around the county might easily be gathered at one location for meets without a large amount of time having to be spent on track and foundation construction.

Jerry Reshew has shown that a large organization is not necessary to plan and execute a successful meet. Rather, some time, a bit of computer expertise, enthusiasm and a willingness to promote a successful gathering are more important.

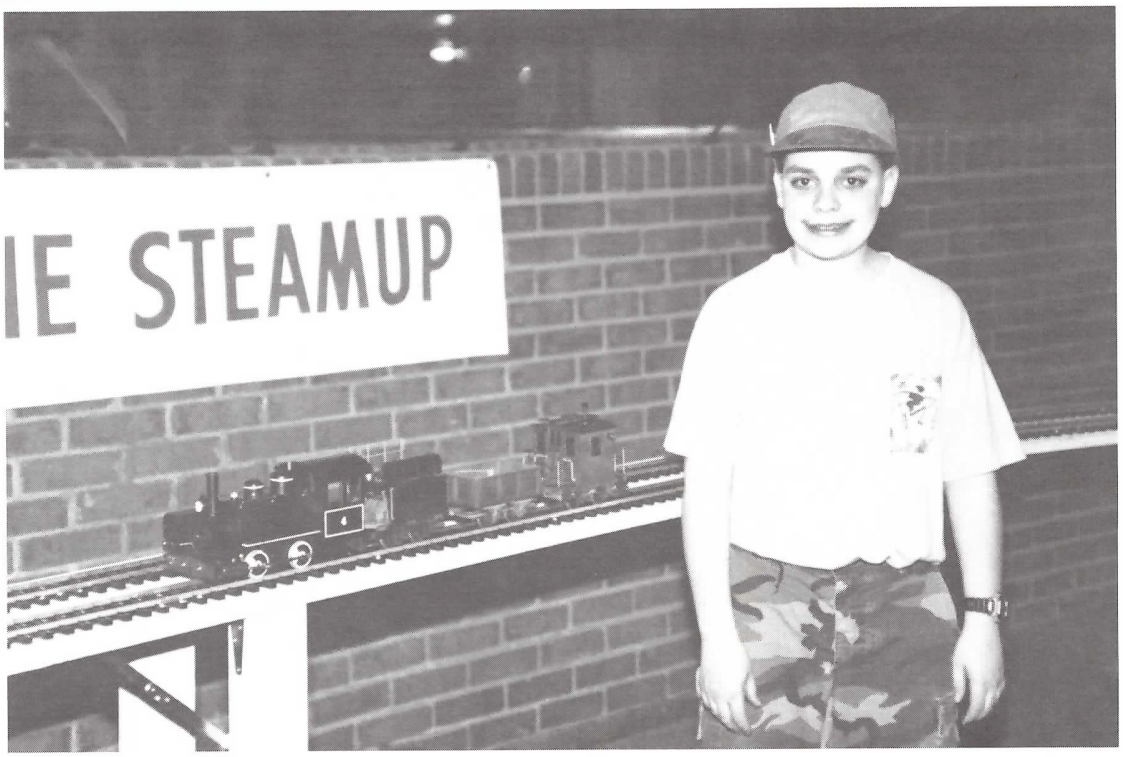
Because of the good nature and manners of those present, this meet established that fifty live-steamers are good guests and therefore good business for a hotel. Other meets in other places now can point to the Diamondhead Days Inn as a reference in planning future events.

Every indicator points to a bigger and better meet next January in Diamondhead. Even with more tracks, more cars and more engines next year, the best addition for 1994 will be your attendance. If you missed the 1993 meet, plan now for 1994. As we would say in Texas, "See ya'll there!"

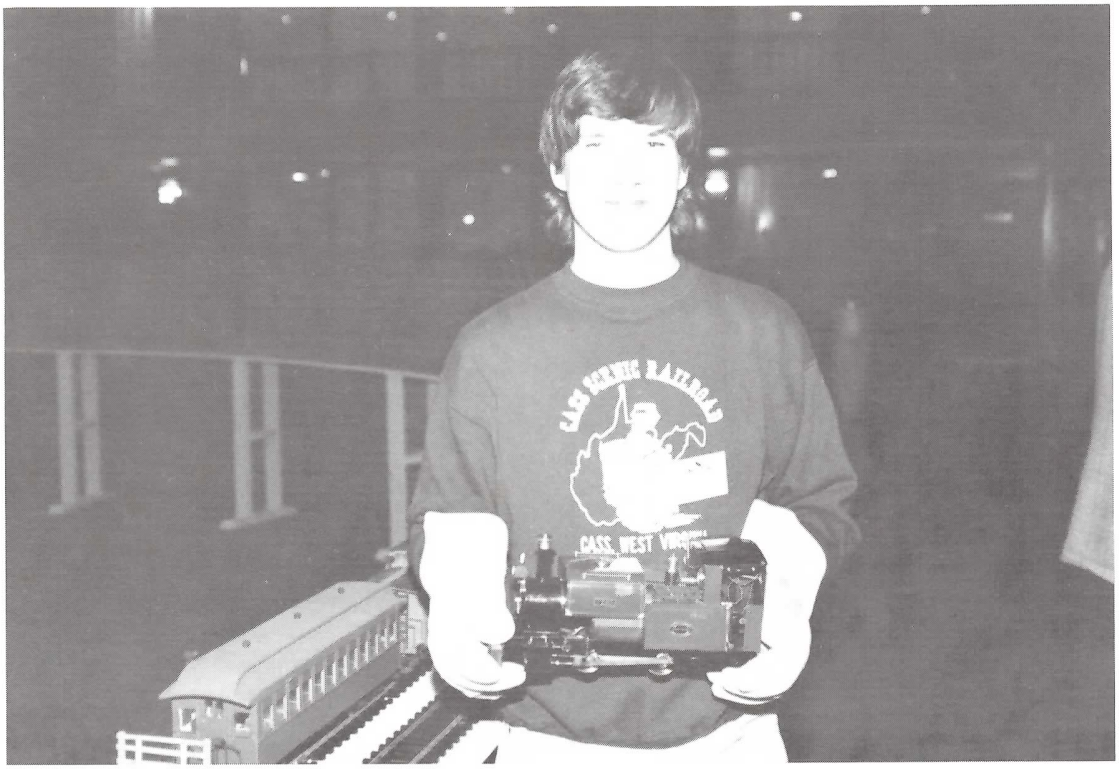
Steamup Photos by Jerry Hyde

A bird's eye view of the beautiful indoor location for the First Annual National Gauge One Steamup in Diamondhead, Mississippi.

Steamup organizer Jerry Reshew gets a draft going on his gorgeous custom-built Q-5, while John Wieland of J. J. Enterprises looks on.

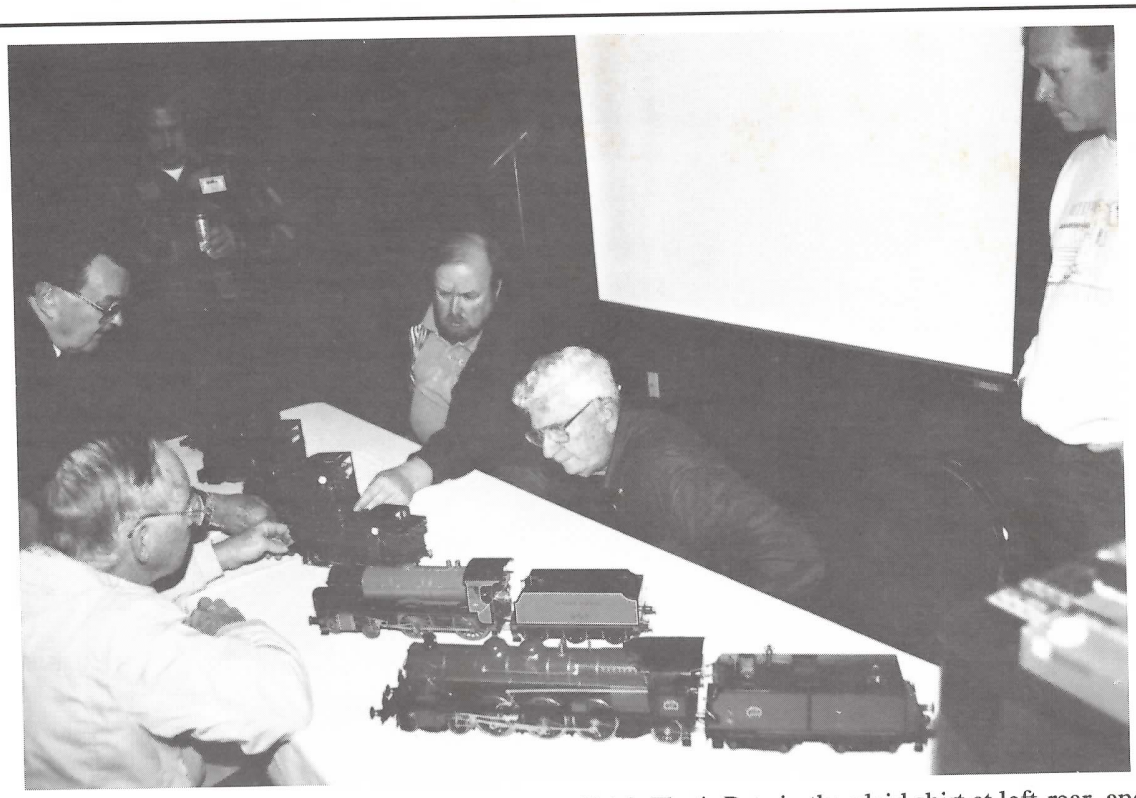


It's great to see some young folks showing an interest in this hobby, and we would be hard pressed to find anyone of any age with more enthusiasm than Anthony Chiodo from New Hampshire. Anthony ran the wheels off his Creekside Baldwin, which he had fitted with radio control. Anthony also built the funky rolling stock himself. Keep it up, Anthony - you're the future of this hobby!

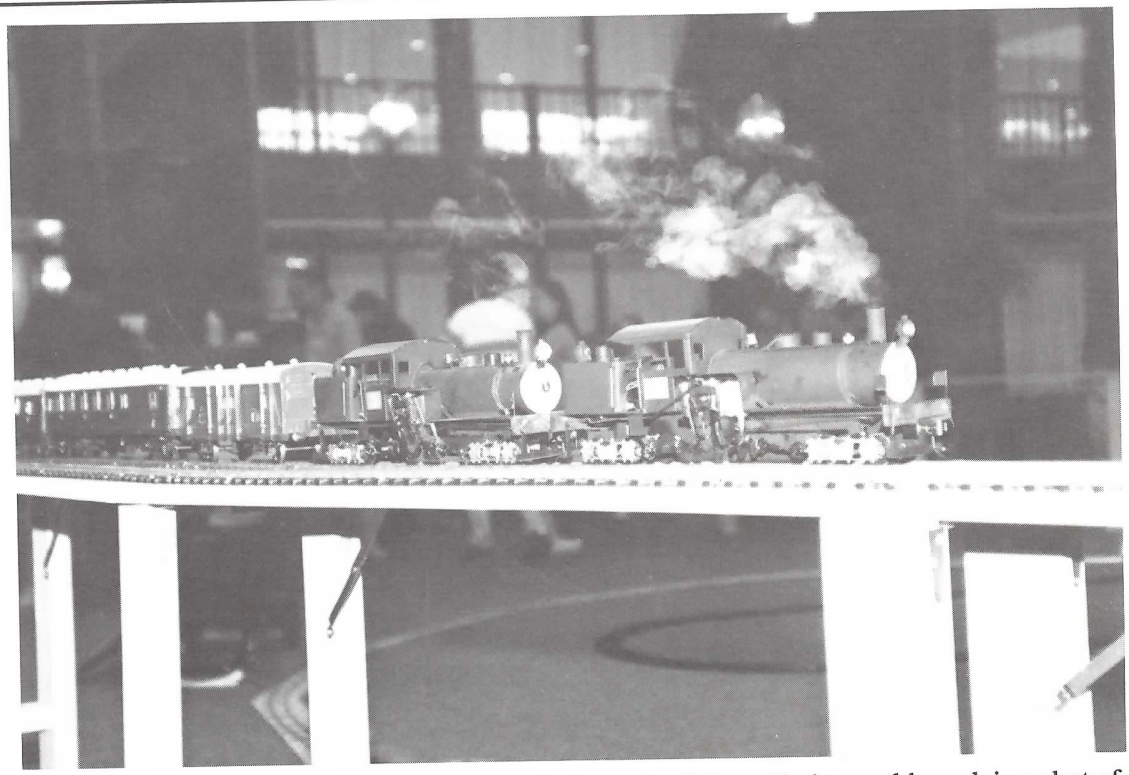


Another younger generation steam enthusiast, Kevin Strong of Upper Marlboro, Maryland, shows off his Roundhouse DYLAN. Rumor has it that Kevin once set fire to his thumb while steaming up.....

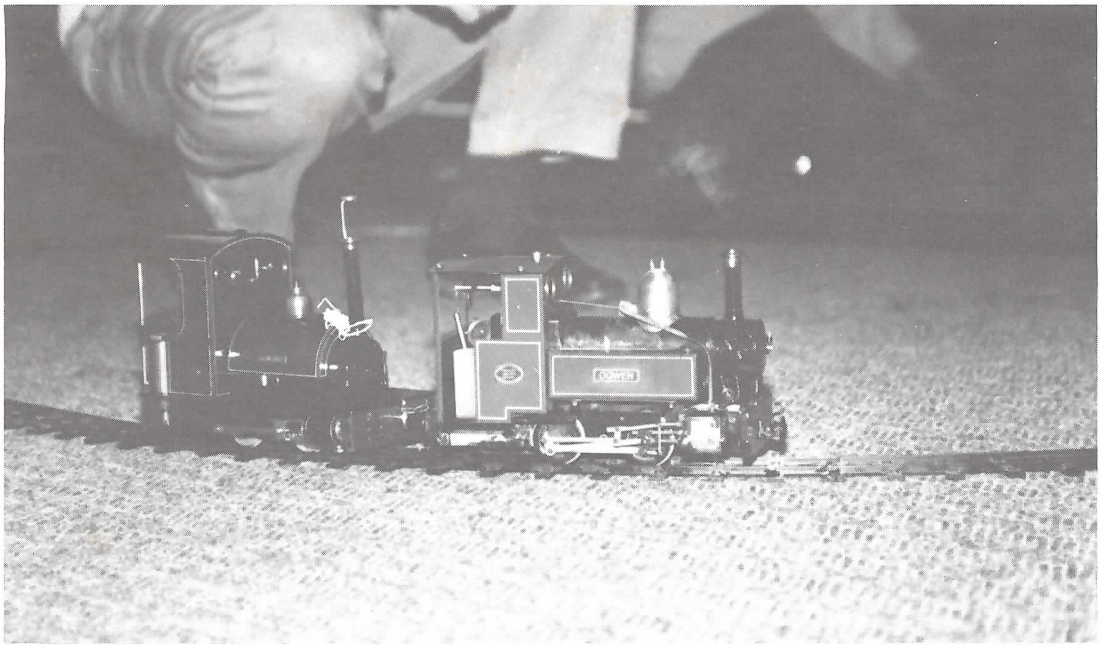
Nearly everyone with an interest in live steam has admired - and probably coveted and lusted after - the famous Lindsay Shay. Here we see one of those legendary locos being fed and cared for by the equally legendary designer and builder, Larry Lindsay from Denver, Colorado.



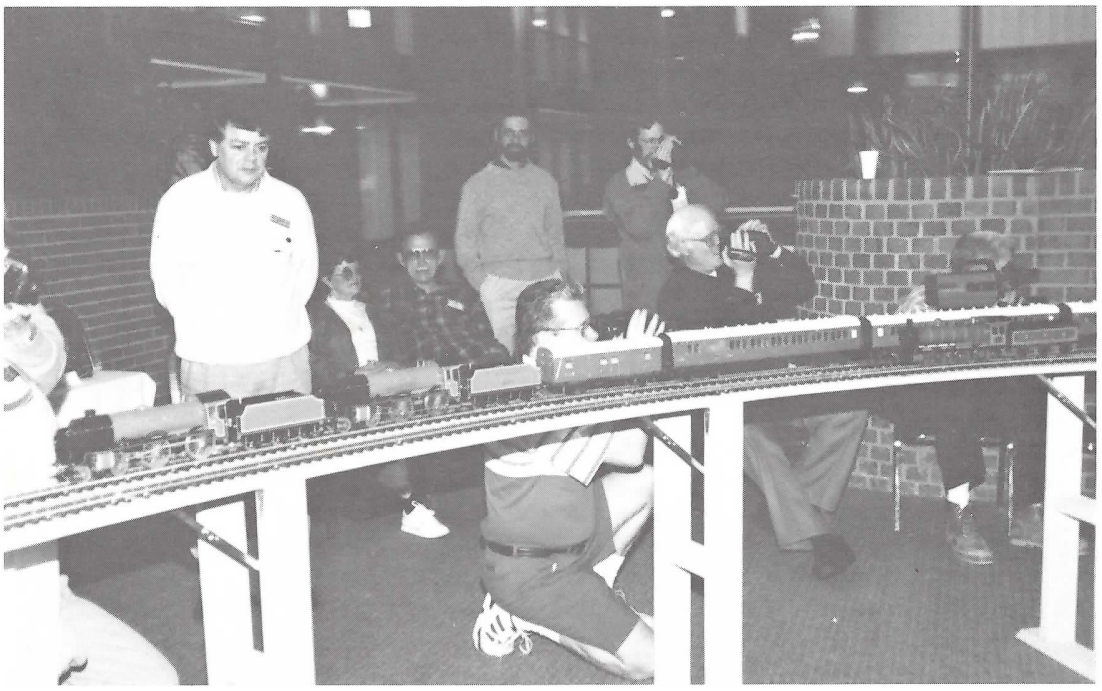
Looks like Pete Olsen's seminar was a real hands-on affair! That's Pete in the plaid shirt at left-rear, and when he's not giving seminars, he's busy running West Lawn Loco Works with the help of his wife, Jo.



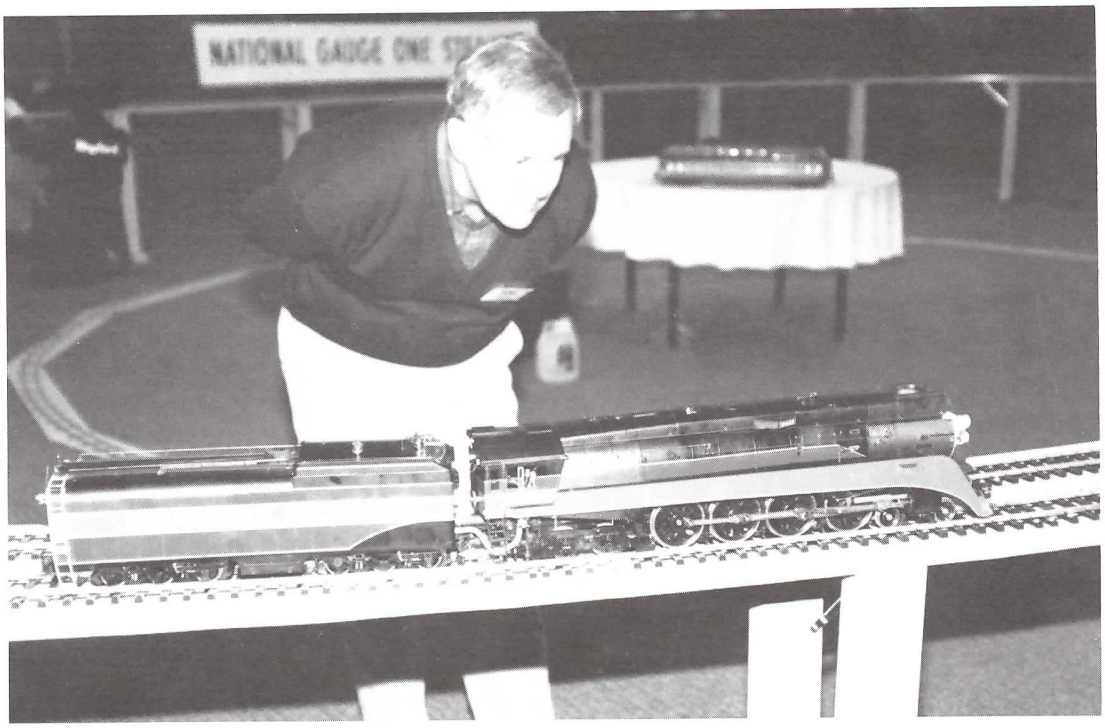
We should have known that our "official steamup photographer", Jerry Hyde, would sneak in a shot of a pair of his Hyde-Out Mountain Shays double-heading a train of Tenmille cars.



Though it wasn't originally planned to have facilities for running gauge 0 locos, there was enough interest for one of the participants to have his wife ship in a portable gauge 0 track. The Roger Marsh-designed OGWEN (now built and sold by Maxwell Hemmens) and Finescale Loco Works CRANMORE PECKETT shown here were just two of the many gauge 0 locos that were on hand for this event. Next year the gauge 0 contingent will have a purpose-built track of their own!



A number of names and faces familiar to live steam enthusiasts relax at trackside and enjoy the sights and sounds of Barry Harper's (Harper's Model Railways) double-headed Aster Schools Class locos hauling a fine looking train of Tenmille coaches on the outside track of the double-track mainline. Jerry Reshew's Q-5 is visible on the inside track at the extreme right side of this photo. Among those that I can identify in this photo are Carol Herget (Ozark Miniatures) and husband Larry, Marc Horovitz (Garden Railways Magazine) and Gary Broeder (Llagas Creek Railways).



Mike West, all the way from North Carolina, admires John Wieland's Aster Daylight. Jerry Hyde tells us that this beautiful loco would actually creep along at Shay-like speeds, and he goes out on a limb to say that it's the best running Aster loco he's ever seen.

The Class of '93 takes time out for a group photo. Here are 42 of the 66 registered participants in the First Annual National Gauge One Steamup. Judging by all the smiles, I think it's fair to say that this event was a tremendous success. Start planning now so you won't miss it in '94!

Product Review: Ozark Miniatures Donkey Engine

by Randall Sauter

Before we get into the nitty-gritty on this product review, I'd like to thank Ozark Miniatures for producing a beautiful and challenging kit. We can hope that they sell so many of these that they will feel the need to tap the vast market with more kits.

The separate assemblies are packaged together as sub-assemblies. Follow the directions in the order specified and you will run into few problems.

I set out for the shop with bag #1, the wood frame. First I cut the cross beams - 8 are required. Oops! The electric saw kerf was too wide! I could only get 6 pieces out of the wood provided. Not the fault of O.M., though. I suggest you use a hobby saw or be prepared to make the two extra cross beams.

Next, using the template provided, drill and shape the long timbers. Distress and stain the timbers per directions provided by O.M. I used a sandblasting cabinet to bring out the grain. If you have access to a sandblaster, lightly blast the wood until it's beat up to your liking.

Now comes the only frustrating step. You must align and glue ten pieces of wood into a perfectly square frame all at once. I used a slow setting super glue (cyanoacrylate) and a carpenters vise. If you use just enough pressure to hold the pieces in place until they are properly aligned and square, you can then tighten the vise. No matter how good you are with a saw, you can't cut eight pieces of wood exactly the same length. The pressure of the vise will press the longer cross timbers into the soft pine side timbers, making perfect joints.

Follow the instructions to complete sub-assemblies. I would recommend not putting the boiler feet on until the boiler is glued in place on the frame. Their location is not clearly marked and they can be better located over the cross timbers later.

The capstan is a white metal casting. In use, the cable was wound around the capstan a couple of times for friction, then coiled up on the ground beside the machine. This caused the capstan to be highly polished. I polished the casting to a high luster, then sealed the casting with gloss lacquer.

I think the haul-back gears look good either painted black or dipped in Blacken-It, then fold fine sandpaper and sand the paint off thte working faces of the gear teeth. Some paint left on the teeth will

A brand new log skidder sits on the factory siding, waiting for the next freight to pick it up and deliver it to the Catatonk Log & Lumber Co. This fine model would make an interesting and attractive detail for any logging railroad.

Photo by Randall Sauter

look like grease.

The only problem I encountered during assembly was determining the proper height to mount the steam cylinder to the boiler. If you glue the steam cylinder to the dimple provided as a locator, it may or may not be correct. To check the fit, set the boiler on a flat surface. The top of the steam cylinder should measure 3.25" from the base. I found on both kits I built that the locating dimple was too high. If the cylinder mounts too high, the valve gear will not reach the steam chest. This is impossible to correct after everything is glued together.

Now prepare for a plumber's nightmare in miniature! You will spend as much time building the injector piping as you do on the rest of the kit. No problems here, it just takes time. I counted 41 separate parts.

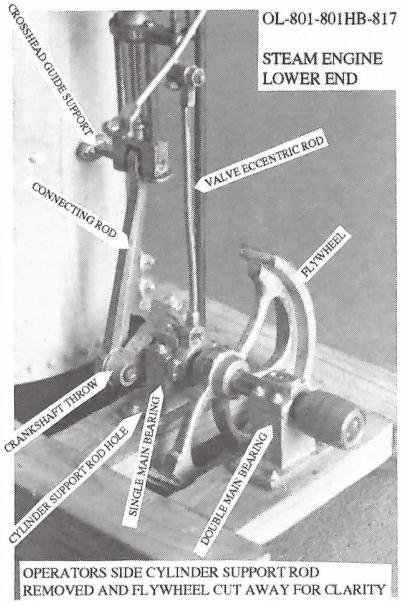
Something that will save you time and parts in this assembly process is to leave part of the sprue on some castings. The plans call for several 1/8" pieces of brass wire to join two castings together. Leaving 1/16" of sprue on the elbow or "T" will allow you to glue it directly onto the next piece, eliminating the need for the brass wire.

Ozark Miniatures claims that this kit is not a finescale model. Well, maybe it doesn't have enough rivets on the water tank to qualify, but I think it's a beautiful model, requiring about 20 relaxing hours to assemble.

I permanently mounted the Donkey Engine/Log Skidder/Dolbeer on a Little Railways flatcar, liberally sprinkled with Ozark Miniatures "logging junk", such as sheaves, tongs, tree shoes, blocks, chain, and so on. I'm really going to enjoy watching my Porter push it around.

Order one of these kits yourself and ENJOY!

Available from your hobby dealer, or direct from Ozark Miniatures.



Ozark Miniatures has informed us that all Donkey Engine kits now being shipped have this illustration included to help the builder more easily visualize the corrrect placement of parts. - ed.

Another fine job of modeling by the author - a scratchbuilt logging crawler on a Little Railways flatcar. Judging by the sag in that flat, it looks like the tractor makes a full load! Hey, Randall! How about kitting that tractor in 1:20? Anyone else interested? Let us know!

Photo by Randall Sauter

Loco Review - Roundhouse Engineering "BILLY"

by Hans Salheiser

Description: Generic model of a typical European narrow gauge 0-4-0T locomotive
Available from: Roundhouse dealers - review loco was purchased from Brandbright/Railway Garden Ltd.
Price: Varies with exchange rate - price at press time was approximately

Technical Specifications:
Scale - fits in nicely with "G" scale (1:22.5/1:20)
Gauge - 32mm or 45mm, gauge adjustable
Length - 9-5/8"
Width - 4-3/8"
Height - 6-3/8" over stack
Weight - approximately 6-1/2 lbs.
Boiler - butane gas fired, center flue, silver soldered copper boiler, fitted with throttle valve, pressure gauge and safety valve set to 40psi. Water capacity is 200 ml full, 170 ml allowing for steam space.
Cylinders - two double acting cylinders with slide valves
Bore & Stroke - 9/16" x 5/8"
Valve Gear - Walschaerts
Lubrication - Displacement lubricator in cab
Duration of run - Factory rated at approximately 25 minutes (see text)
Control - Available with manual control or R/C control installed
Couplers - center buffer with hook
Color - cab, boiler and sandbox-green, frame & cylinders-black, buffers & buffer beams-red, dome & boiler banding-bright brass

When I started to read the Nov/Dec '92 issue of SitG, I got stuck for awhile on page 6. There was a picture of "BILLY", a model of an 0-4-0T narrow gauge, outside framed locomotive, of which many were built by Orenstein & Koppel, Arnold Jung, Henschel, Kraus and others.

Since I had almost completed the changeover from gauge 0 to gauge 1 on my outdoor railroad, this loco was just what I needed to pull my LGB passenger and freight trains of continental outline. The Mamod, which I had purchased from West Lawn Loco Works a few years ago, and which I had re-boilered and rebuilt the vital mechanisms, could wait for next winter to be reshopped again to run on gauge 1 track.

After conferring with my financial secretary and receiving her encouragement to buy a locomotive which did not need endless hours of rework, it was decided that we would order a Christmas present for me from Brandbright Ltd., through their U.S. representative, Samuel Muncy at Railway Garden Ltd.

Since this took place just a few days before Christmas, I expected a long wait for the arrival of the new locomotive. But (surprise!) a loco was in stock and could be shipped just as soon as the money transaction was made, and on January 13th it arrived in the mail.

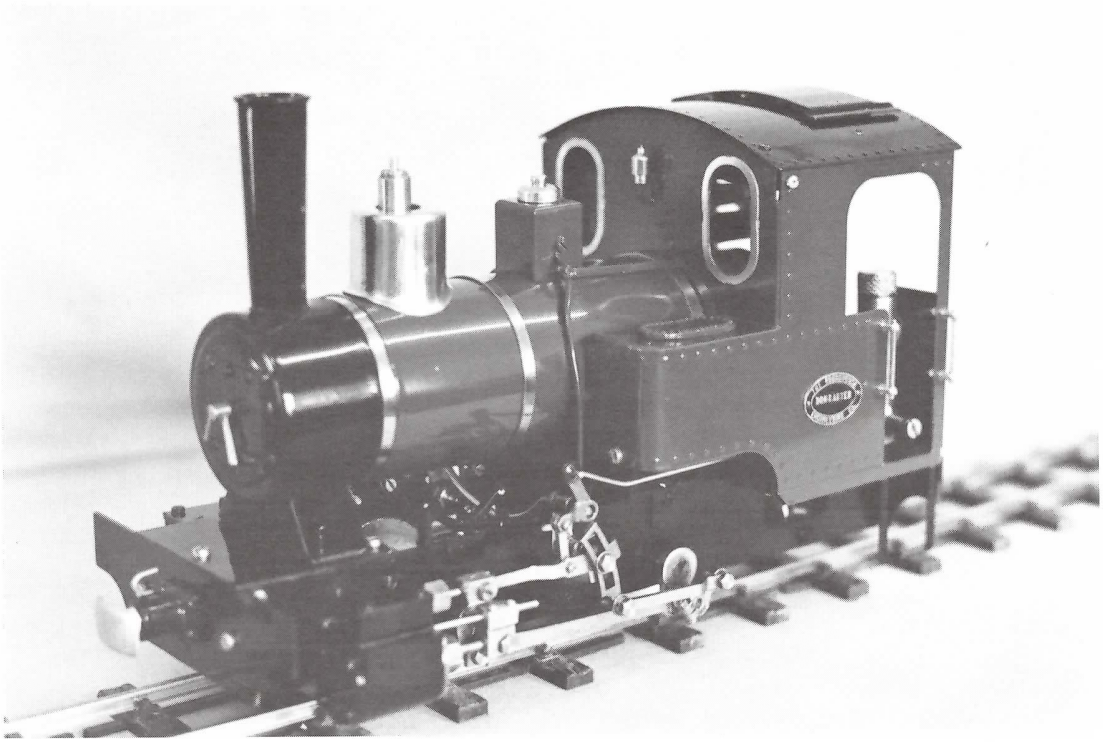
I must give credit to Brandbright for the excellent packaging job they did. Nothing was broken or bent. Besides the radio control unit, a package containing a bottle of steam oil, 60ml syringe (for boiler filling), allen wrench, wheel spacing gauge, extension nozzle for gas transfer, spare O-rings and gaskets and a G-scale engineer were all included with the locomotive.

Due to the rainy weather we were having, it was more than a week later that the first steamup took place. This gave me enough time to read all the instructions carefully and to acquire the butane gas, distilled water and a dozen AA batteries required for the radio control unit. The owners handbook gives all necessary information for operation and maintenance, and is very complete in this respect. I would like to see some technical data included, such as gas tank and boiler capacities, cylinder bore & stroke and the scale to which the model is designed.

When the weather finally cleared up and the backyard dried out, domestic chores were put on hold and the missing 25' of track were temporarily installed to complete the track circuit and allow an uninterrupted run.

Filling the boiler to the brim takes 200ml of water - then I removed 30ml per instructions to leave steam space and screwed the safety valve back in place.

To fill the gas tank, which sits in the right front corner of the cab, the cab roof must be lifted slightly and tilted forward to clear. Since this was the first time for me to transfer butane from a cylinder to a locomotive gas tank, I went about it with a bit of apprehension, despite all that I had previously read about it. But I must have done it right since my loco gave me a run of about 25 minutes.



BILLY, the subject of this review and one of the latest in a long line of excellent live steam locomotives from Roundhouse Engineering in England. **Photo courtesy Brandbright/Railway Garden Ltd.**

After draining the lubricator and refilling it with steam oil - and putting a few drops of same on the piston rods - I oiled the running gear and valve gear with 10W-30 motor oil, and placed the 4 AA batteries into their box under the cab roof. The locomotive was then taken from the garden bench and placed on the track at the High Bridge.

Before lighting up I checked out the radio control operation of the valve gear and throttle, then opened up the gas valve while holding a lit match over the stack. After a little hesitation I could hear the flame popping back into the flue and the hiss of the fire starting up. This I quieted down a bit by closing the gas valve slightly, and after about 7-8 minutes the pressure gauge showed 20-25 psi.

Although the safety valve is set for about 40 psi, I figured that for a light-engine run I would not need all that much power. So I opened the throttle about halfway and the engine started forward hesitantly, sputtering hot water and oil out of the stack and all over herself. This stopped soon enough after reversing the direction a couple of times to clear the cylinders of condensate, and then she settled down with a clear plume of steam coming from the stack. What a beautiful sight that was!

Starting clockwise from the High Bridge, BILLY had a level run of about 80 feet, then downhill on a 1% grade for 60 feet and along the lower level stretch for another 50 feet, passing twice under the high line and starting the 1.8% climb up to the high line. 38 feet of this grade is on an 8 foot radius curve for 3/4 of a circle, on which BILLY needed hardly any more power to get up the hill, but proved to be very responsive to throttle changes when necessary.

I ran her light for about 15 minutes, changing direction for every circuit of the line, then coupled up two LGB 4-wheel freight cars for another 10 minutes, after which she ran out of gas and steam. When I drained the boiler after this first run there was about 15ml of water left in the boiler.

The following weekend I had my daughter's and my son's families over for an afternoon of steaming. The first run was with a 4 car LGB passenger train (all 4-wheel coaches), and later all nine cars were coupled up behind BILLY. The grandchildren had a great time running the trains - and so did Grandpa. This little loco performs beautifully.

The only problem I've had was refilling the gas tank after the first (and subsequent) runs. The gas transfer apparently did not work as well as when the engine was cold. Well.....I just read on page 23 of SitG #16 (January/February '93), second and third paragraph in the right hand column, what Richard Finlayson does when he has had that problem. And I had to say to myself, *"Live and learn!"*

The engine is in general easy to work with, and the controls in the cab are accessible. The gas valve sits up on the right side and can be reached through the big opening in the rear cab wall. The lubricator sits on the left side in the cab entrance and has a drain plug sticking slightly out of the entrance. Any adjustments to the linkages between the throttle servo and steam valve or between the directional control servo and the valve gear presents no problem because of generous access to both.

To fill the boiler with water you must remove the steam dome casting, which sits by its own weight over the safety valve base, and then unscrew the big knurled plug by hand. No wrench needed here, and it should be only finger tight when screwed back in.

I must say that I am a happy guy to have a locomotive that performs as expected, looks good and to me is a real quality piece of model machinery - which is really no surprise with Roundhouse. And after 50 years of building precision tooling and gauges I am not judging such things lightly.

BILLY rolls quietly into the station on a sunny winter afternoon in Alabama. **Photo by Hans Salheiser**

GAS-FIRING - GETTING THE FUEL IN THE TANK

by Ron Brown

Gas-firing of small-scale live steamers is generally clean, safe, fairly quiet and trouble-free. Occasionally an orifice will clog, requiring removal and cleaning of the gas jet - or in severe cases, replacement of the jet. This is a simple task, and can be accomplished quickly and painlessly.

Not so simple is the problem of filling the gas tank when the loco is hot - either from having been steamed up or just from sitting on a siding in the warm sunshine.

Some loco builders use a self-venting filler valve, which allows gas to escape while the liquid butane is entering the tank. When the tank is full, liquid fuel can be seen and heard coming out of the vent.

Unfortunately, not all loco builders use self-venting valves, and the pressure buildup inside the tank (especially when hot) can make it difficult to get enough fuel into the tank for a full run.

My first encounter with this problem was with my Maxwell Hemmens Porter, as noted in a review of this loco in SitG #10 (December/January '92). In order to fill the fuel tank, I had to resort to disconnecting the tender from the locomotive and placing tender and fuel tank in the freezer compartment of our refrigerator. This worked well, but was time-consuming, awkward, and it certainly didn't win any points with the lady in charge of the kitchen, who generally has the patience of a saint, but draws the line at trains in her refrigerator!

The problem was finally resolved on this particular loco by replacing the non-venting filler valve with a new self-venting valve. It was not as simple as it sounds, however, requiring silver-soldering a new bushing into the fuel tank.

If you can find a self-venting valve (made by Ronson, Colibri and probably some others) that will simply screw in as a replacement for your stock, non-venting valve, that's the simplest solution. If not, then here are some other suggestions.

(1) Cool your fuel tank down before filling by draping it with wet rags or spraying with cold water. Warm the fuel cannister at the same time - but DO NOT IMMERSE IT IN **HOT** WATER!

(2) You can also chill your tank by spraying it with a can of electronic circuit chiller, available at your friendly neighborhood electronics store and generally used to chill electronic components during a temperature test.

(3) The last method we'll discuss for now is the simplest and least expensive, since it doesn't require the purchase of any special equipment or supplies. On a loco like the Salem Steam Models Porter, which is not equipped with a self-venting filler valve, I crack the gas feed valve open slightly and leave it open while I'm filling the tank. This allows the gas to escape from the tank while the liquid is entering, just like a self-venting filler valve would do. When the hiss of escaping gas is interrupted by the spit and gurgle of liquid fuel escaping, the tank is full. A friend of mine tells me that this method wastes a lot of fuel, but I haven't found that to be the case.

If you do choose to use this method, be aware that this gas is heavier than air. It will settle in low spots and collect in pockets in and around your trackage - and even on your locomotive. Fuel your loco only in well ventilated areas and **NEVER LIGHT UP IN THE SAME LOCATION WHERE YOU FILL YOUR TANK.**

No matter which method of tank filling or firing you choose, it's a good idea to have some wet towels and a fire extinguisher on hand. Think safe, be safe, live long and have fun. We'll see you at the next Steamup!

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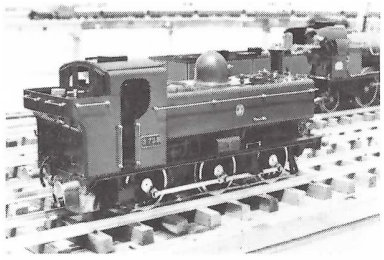

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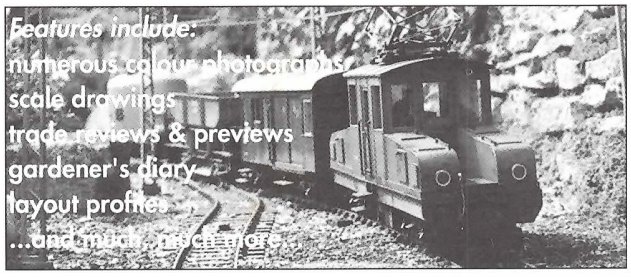

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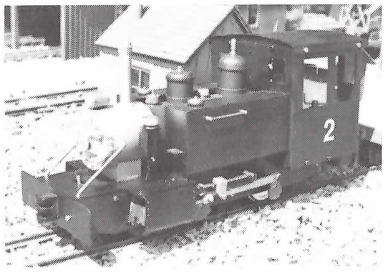

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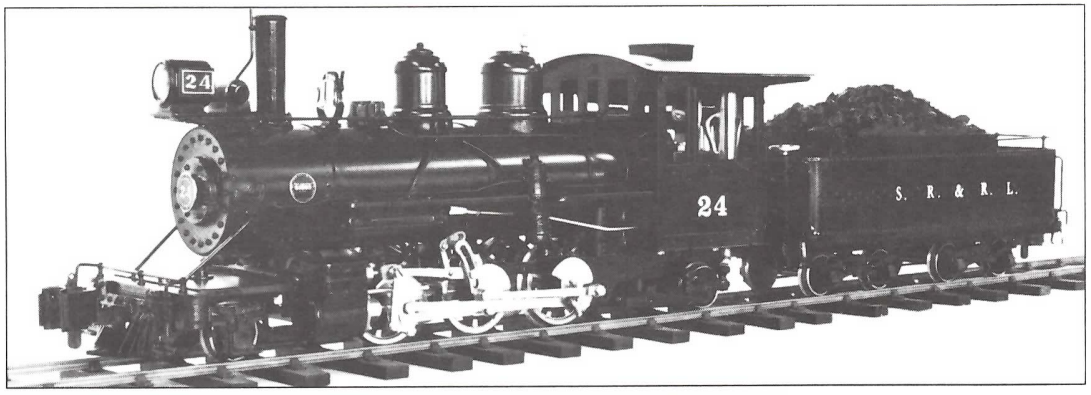

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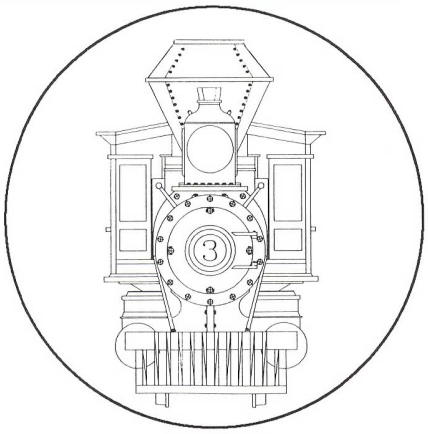
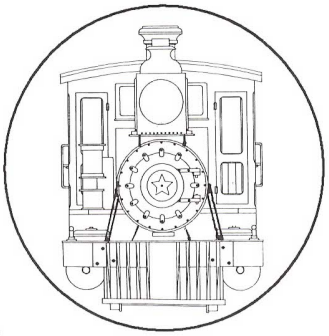
NEW FACES IN U.S. STEAM

1876 BALDWIN 4-4-0
South Pacific Coast No. 3
3 ft. Gauge
SCALE 1:20
Price: US$2200



1892 BALDWIN 2-6-0
Sandy River 'OLD STAR' (ex 'JAMES WYMAN' LR&HS RR)
2 ft. Gauge
SCALE 1:22.5
Price: US$2280



Gas or Alcohol Fired, Stephenson Valve Gear, Hand Feed Pump, Water Gauge, Pressure Gauge, R/C Optional, Choice of Couplings.

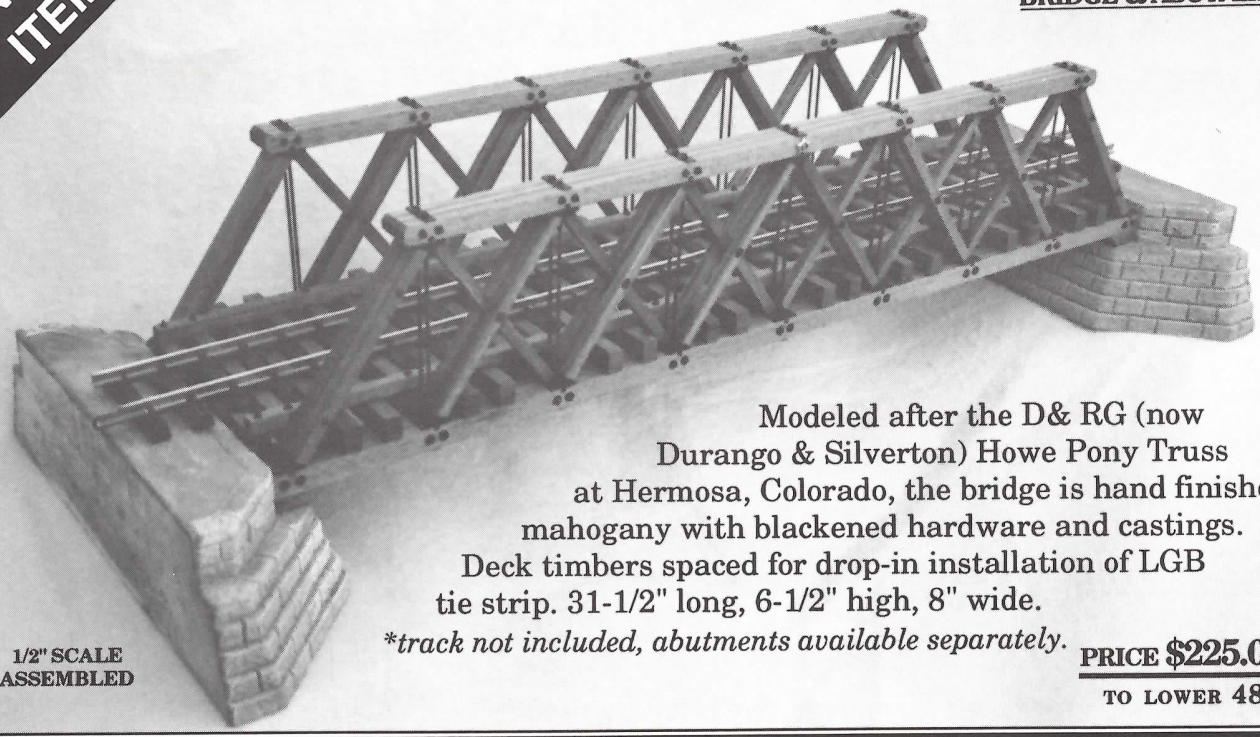
Pilot Models - Steaming at Garden Railway Convention, Santa Clara, California in July
First Deliveries - August 1993
Reservations Now - with Sam Muncy, Railway Garden Ltd., 805-927-1194

Manufactured By: Argyle Loco Works, Australia

NEW ITEM

PONY TRUSS at MILE 462.42

LONE STAR
BRIDGE & ABUTMENT



Modeled after the D& RG (now Durango & Silverton) Howe Pony Truss at Hermosa, Colorado, the bridge is hand finished mahogany with blackened hardware and castings. Deck timbers spaced for drop-in installation of LGB tie strip. 31-1/2" long, 6-1/2" high, 8" wide.

**track not included, abutments available separately.*

1/2" SCALE ASSEMBLED

PRICE $225.00
TO LOWER 48

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SELL/TRADE: J&M Pennsy observation Federal Hall (lined), new in box, $695 or trade for lined Liberty Hall, Liberty Park, Edgar Allen Poe or diner in excellent condition. Jerry Hyde, 89060 New Rumley Road, Jewett, Ohio 43986 - phone 614-946-6611.

SELL or TRADE: Little Engines 1-1/2" scale, 7-1/2" or 7-1/4" gauge 4-4-0 locomotive, sections 1 thru 5 (chassis) factory machined and already assembled except for axles and wheels. All 8 factory machined wheels are included, but are not mounted on the chassis. Included is a chassis tool kit and drawings for the sections already completed. Replacement valued at $2,000. Will sell outright, or will consider trade for small-scale live steam loco, preferably a Roundhouse Fowler or equivalent engine in top condition. Contact Donald Boone, 3381 Indian Trail, Suffolk, VA 23434, or call 804-539-6200 or 804-925-1402.

Buy-Sell-Trade is published at no charge as a service to subscribers. Listing must include name, address and phone number of seller. Please send your listing (may include photo - will use it if space permits) in legible form to: SitG, P.O. Box 335, Newark Valley, NY 13811. No phone-in listings, please.

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END OF THE LINE

Our Cup Runneth Over

From where I'm sitting, it sure looks like a boom in small-scale live steam is just getting underway. Are you impressed with the abundance of new quality live steam locomotives and parts that have arrived on the scene during the last year? How about all those that you've seen or read about for the first time in this issue?

For you guys who have been sitting on your hands (and your wallets) for the past few years, telling us that you're waiting for some models of American prototypes to arrive on the scene before you make the move into live steam.....it's time to put your money where your mouth is!

There's something for nearly every taste out there now, in a wide range of scales and degrees of detail. I daresay there's something worthwhile for every budget, too - no matter how scant.

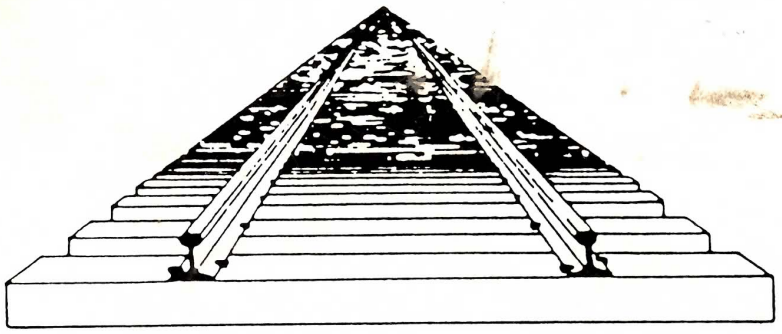
Want to assemble and paint your own to save a few bucks? Try a kit. Not sure enough of your skills and abilities right now? Opt for a factory-built loco.

Narrow gauge, mainline steam, logging, mining, North American, British, European.....take your pick.

The only problem now is figuring out how to stretch the budget to accomodate everything on your "gotta-get" list!

We asked and the builders have responded. Now let's support their efforts by letting them know we appreciate their faith and confidence in us. It costs a bundle to set up to build even a small run of steam locos, and no one is getting rich building or selling (or writing about) steam locos. If you've been wanting a live steamer, they aren't going to get any cheaper and you aren't getting any younger. Go for it!

Lots of great new locos out there now, and our sources tell us that there are more on the way.....looks like this is going to be a very good year!



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Due this spring:

Gauge 1, Code 215 "Narrow Gauge Look" (long tie) flex track
Gauge 1, Code 215, 1:32 scale, standard gauge flex track
Gauge 1/0, Code 215, dual gauge flex track
Gauge 0, Code 215, 16mm scale (2 Ft. gauge) flex track

Send LSASE for complete information. Dealer inquiries invited.

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Morgan Hill, CA 95037-9429

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