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Steam in the Garden

Magazine

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

Issue No. 22

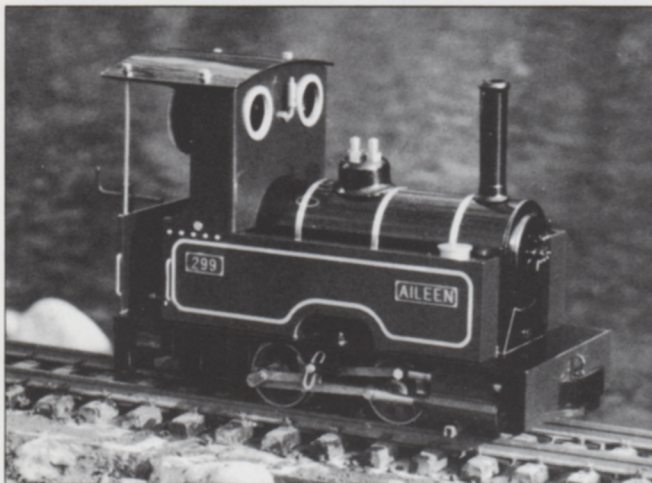
May/June 1994



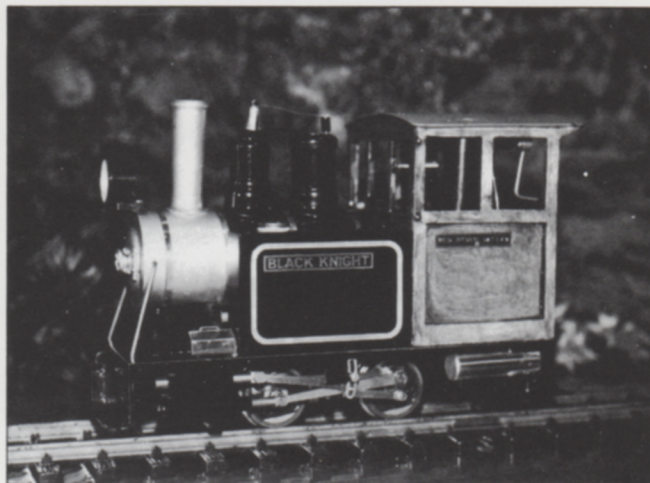
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- **DIAMONDHEAD NATIONAL GAUGE ONE STEAMUP REPORT**
- **CRANKPIN ON LATHES FOR THE HOME WORKSHOP**
- **MARC HOROVITZ ON GAS FIRING**
- **AND LOTS MORE.....**

ANNOUNCING . . . GIANT LITTLE RAILWAYS LIVE STEAM LOCOS



Little Giant



Dixie

Yesteryear Toys & Books Inc. has been appointed the exclusive North American distributor for 'Giant Little Railways.' 'Giant Little Railways' are manufactured by The American Steam Locomotive Co. Ltd. of the UK (formerly Steamlines Publications & Models).

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ON THE COVER:

A little bit of American-style railroading in England -- Alder Creek Lumber Co. #2 (a Lindsay Shay) drifts lazily over a small truss bridge on Dave Pinniger's Burnham and Berkshire Railway.

Photo by Dave Pinniger

Strange Doings Down Under

So you think you've got problems with critters on your garden line? Gordon Watson (Argyle Locomotive Works in Australia) reports that he finally gave up on his ground-level railway and replaced it with an elevated track because of...old age?...bad back?...floods?

Nope...wombats! For those that aren't familiar with wombats, Gordon offers further enlightenment. A wombat is a quadruped marsupial, about the size of a pig, that lives in underground burrows. It is as common in Australia, apparently, as the kangaroo.

Wombats must be tough as nails, as Gordon also reports that a full-sized, 2000 hp, double-cab Alco locomotive hit a wombat not far from his home, inflicting serious damage to the locomotive. Actually took it out of service! Gordon didn't say how the wombat came out, but my guess is that it suffered even more damage than the loco.

It's bad enough that the wombat wanders around loose, taking out fences and garden railroads like a mini-Caterpillar tractor, but it sounds like it's even more of a hazard to vehicular traffic, including the railed variety, than deer are here in North America!

My last thought on the wombat is that a beast the size of a pig must require a pretty good-sized burrow. Can you imagine strolling out to the garden railway on a lovely summers morning, only to find that track, ballast, villages, flowers, shrubs and all have become a part of the local wombat's living room?

Sorry Gordon.....but I'll take a herd of deer prancing on the rails any day!

Happy Steaming!

Ron

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Steam in the Garden magazine

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Questions or comments? Phone us at 607-642-8119 - before 9:00 p.m. Eastern time, please - or send a FAX anytime at 607-642-8978.



R P O Mailbag

Letters from all over

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

* * * * *

Berwick, Pennsylvania

Ron,

Pressure is up for '94 in Berwick! We have been snowed and frozen in for so many weeks that it was hard to remember why the snow was so slippery when the temperature reached 35° F this afternoon. Several things came to mind as this 60° increase in temperature over our record new low for this area quickened my pulse.

Today being the annual celebration of the founding of the Southern Tier GRS, son Carl having nothing to do, and No. 7 admiring the frozen B & EM landscape since her arrival from New Brunswick 3 weeks ago, all spurred me to action.

I prepared No. 7 (our new Geoffbilt Forney) while Carl rounded up all the loose track around the house and constructed a 25 foot test track in the drive. The burner was lit just as the wind increased to 15 knots, but pressure was up in 10 minutes. With Carl's help the next 20 minutes were spent shunting our short spur with the safety lifting a good part of the time! My hat's off to Geoff -- Great Loco.

Maybe if we all wish real hard the snow will give way to spring flowers.....soon.

Dan Long

Cameron, Illinois

Ron,

As a new subscriber I appreciate the information in SitG. I'm not an avid live steam fan, but enjoy all aspects of model building, particularly mechanical models and the history of technology. I really enjoy the articles by your contributor Crankpin.

I am working on an article of my own and would like to see if your readers could help me out. I am attempting to research some early modelmakers tools.

Two machines that I am interested in are the "TRIPLEX Combination Lathe, Milling and Drilling Machine", which was manu-

factured by the Triplex Machine Co. of 50 Church Street, New York City. It was advertised in the 1920's in THE MODELMAKER magazine, and probably other places as well.

The second machine is the "4 in 1" Lathe, Horizontal Mill, and Vertical Mill, manufactured by the Gillman Engineering Works of Janesville, Wisconsin. It was advertised in the late 1930's. I have a review of it from the British magazine, MODEL ENGINEER.

If any of you readers out there have information about these machines, including instruction manuals, advertising literature or even the machines themselves, I would be pleased to hear from you.

My address is RR #1, Box 163, Cameron, IL 61423.

Regards,
Roland Friestad

Essex, England

Dear Ron,

My article "The Next One" in SitG Vol. 4 No. 2 has elicited a most enthusiastic response in the two months since it appeared. My thanks go to all who have written or phoned.

The almost universal view seems to be that the D&RG Class 60 (C-16) would be a welcome addition to the garden railway scene. All the well known railroads of the Old West seem to have used them at one time or another, and they appear to be quite well documented.

I'm especially grateful to Harry Wade and Graham Harding for providing drawings and information, and to Don Beach for the gift of one book and the loan of others. Don has also kindly loaned me his Delton C-16 so that I can get a 3-D feel for the distinctive early American building style.

A century ago, British locos, with which I am more familiar, had plate frames of "best Sheffield iron" well over an inch thick forming a rigid spine on which the other parts were erected. The American steel industry of the day could not roll slabs of this size economically and, rather than import frames, loco builders developed the bar frame technique. Here, the boiler, smokebox and cylinders became the backbone, and the frames, of much lighter built-up construction, served principally to maintain the wheel spacing. If (when!) a loco ran off the road, the frames could easily be dismantled and straightened. Adapting this technique to model form is proving an interesting exercise.

I've been fooling around with some undersize wheels and a pair of one-piece "bar" frames recently to get some idea of the problems. It's only when you start cutting metal that you realise how much you don't know. The loco is to be no particular scale but is small enough (C-7 3/4?) to be known as "Piglet", and will run on my "0" gauge line.

The question of scale is the next problem to be addressed. Sev-

eral correspondents have pointed out that 1:20 would be correct for 3ft. gauge. Actually, it's 1:20.6 for gauge 1 (1-3/4") and 1:20.3 for LGB (45mm) track. Yes, there is a difference!

In fact, however "correct" it may be, I'm not sure that 1:20 is a realistic proposition at present, as I can find only Llagas Creek track and Gary Raymond Wheels advertised for this scale, but no rolling stock. So it rather boils down to 1/2" scale versus "G" scale. Other than a personal prejudice against anything metric (not all Brits are Euro-fanatics), I have no real preference either way. It will probably be decided by available sizes of copper tube for the boiler and whether I decide to fit a proper boiler jacket. The two drawings I have differ slightly in boiler diameter and neither is fully dimensioned, so for the moment I am reluctant to cut metal.

And there the story rests at the moment. My spies are busily hunting out definitive drawings (I hope). I'll keep you informed.

Kindest regards,
Mike Chaney

1449 W. Willow Lane
Park City, Utah 84060
USA

Dear Ron & Marie,

My March/April issue of SitG just arrived. As usual, it is full of helpful and interesting information and articles, not to mention amusing letters. The pictures seem to be getting clearer and crisper with each issue. And how about Mark's illustration on page 11!

In regards to making the list of subscribers available to "members", add my name in with Chip Rosenblum, Ricky Morningstar, R. G. Beales, etc. (if it's published, maybe I wouldn't bother you so much...)

I would like to add my thanks to Jerry Reshew & his crew for an incredible weekend & experience at the 2nd Annual National Steamup (in Diamondhead, Mississippi). I had a great time! Morgan's letter (RPO, January/February issue) says it all for me, although I didn't have an alcohol fire -- mine was butane. Enclosed are some photos from the steamup.

Thank you both for all you do to support & promote our affliction (or is it addiction?).

Jim Hadden

Durban, South Africa

Dear Ron,

Many thanks for your prompt response to my letter. My surface mail copy, however, arrived two days ago and the airmail copy & letter today. Sorry to have wasted your time and money. I will, as you suggested, pass the extra copy on to someone who is interested.

The only commercial parts I expect to use for my Avonside loco are a pressure gauge, miniature ball bearings and nuts & bolts. I've found a good source of ball bearings from scrap IBM disk drives (not PC's).

Because of very poor exchange rate, necessity is the mother of

invention and wherever I find something can be scratch built without too much research and development, I go ahead and make the item.

I don't seem to be alone in this situation as the local model engineers very seldom import castings and the like for locos, etc. The only commercial items used seem to be nuts & bolts, pressure gauges and metal sections, of course only available as imports.

Purchasing RTR or kit locos in gauge 1 or gauge 0 is a major investment and out of reach of, I would guess, nearly all of the model steam enthusiasts out here.

However, most dark clouds have a silver lining if you look for them, and I find my knowledge of the finer points of what makes a loco run, and what makes it run well, increases with every engineering or machining challenge. The added bonus being, I am learning a skill totally different to my occupation at work.....although I do find the one helping the other now and again.

Thanks for your effort and hard work in producing a first class magazine for us SitG readers. All the best and happy steaming (when you get time!)

Yours sincerely,
Gary Lambert

551 Arch St.
Royersford, Pennsylvania 19468
USA

Dear Ron,

I have two queries for the consideration of you and your readers.

1. Has anyone ever developed some sort of speed regulator for manual controlled steam engines? For example, a centrifugal, weighted or pendulum system that causes coarse adjustments on grade changes. The idea would be to allow some speed to build up on down-grades, but to stop the dangerous runaways and to allow a certain "struggle" up the hills, but without completely stalling out. It could be partially electrical or completely mechanical, and it might have to account for the reversing mechanism.... Well, you get the idea.

2. Is anyone using any special coatings or cathodic protection to inhibit corrosion on their rails or metal structures? Although this is probably of much more interest to those who run electric trains, live steam enthusiasts could also benefit. Garden railway track and structures can be a significant expense, and a small investment in some simple corrosion control could help extend their useful life. I would be happy to discuss this further, and perhaps run some tests, but first I wanted to inquire if anyone else has done any work in this area.

I would be pleased to be included in the listing of fellow steam enthusiasts that you are generating. In addition to my novice status as a gauge 1 steam engineer, my college degrees are in electrical and nuclear engineering, and I formerly worked as a commercial inspection diver doing non-destructive testing (underwater). Some of my experience includes potentially useful skills such as hydrostatic testing, high and low pressure plumbing, corrosion control and measurement, and instrumentation and control systems.

I'm partial to the PRR, Reading, Lehigh Valley, etc., but then, look at where my town is on the right-of-way! I had some LGB track in the back yard in the late '70's, but nothing now. Plans are under-

way, however.

Thanks,
Edward, R. Kabak

Lemuria, Ohio

Dear Mr. Brown,

I am writing in regards to the list of small-scale steam enthusiasts mentioned in issue No. 20 and commented upon in issue No. 21. I think this is a capital idea, as it will allow me to collect the names of everyone in the hobby, especially such air headed persons as Rosenblum and Morningstar. These two guys have obviously underestimated the power of those of us who are members of the NATIONAL JUNK MAIL ASSOCIATION. We thrive on filling mailboxes everywhere with useless paper. Our goal is to denude most of the North American continent of timber as soon as possible!

Please send the list to Terry "Stumpy" Stone in Martins Ferry, Ohio. We have been stealing his magazines right out of his mailbox for quite awhile. Thank you for your service.....

Baron Otto Matic, President
National Junk Mail Association

Covina, California

Dear Mr. Brown and Faithful Assistant,

As much as I enjoyed Marc Horovitz' and Ol' Cranky's valuable articles in the March/April '94 issue, it was the one on workshops by Peter The Great (aka Peter Jones) from across the "puddle" that captured my fancy....and my thoughts.

That piece was a classic, and should be required reading by anyone contemplating a refuge of their own! However, I must disagree with Mr. Jones on one important point; that being "...there is no perfect shop or one that is best...". He's wrong. There is, and it's MINE!

Yours in steam,
D. Gardner

Martins Ferry, Ohio

Dear Ron,

Hey buddy, what's happening? Did I forget to pay for my subscription? I haven't got a *Steam in the Garden* magazine for months! The last one I got came in a torn envelope and had fingerprints and a coffee ring on it. If I didn't know better, I'd think our highly efficient postal service was messing up, or that maybe some low-life, scum sucking, magazine stealing degenerate was ripping me off!

By the way, I had an idea. Why not come up with a list of all the folks you have suckered into buying live steam locomotives. Since you are retired with little or nothing to do but count your money, you could compile and regularly update this list as well! Great idea,

huh?

See you in August...KEEP ON TRACKIN'...

Stumpy Stone

Looks like I'm going to have to explain to Stumpy the difference between "retired" and "not gainfully employed"! Judging by the last few letters in RPO this issue, it would seem that the long, hard winter has had some serious deleterious effects on the minds of a few members of our steam community. But then these few were very close to the edge to begin with.....ed.

Albertson, New York

Dear Ron,

I think someone should get together a boiler testing kit for garden sized engines, with adapters to fit all the popular makes of locomotives on the market, and make them available for sale.

Harvey Lewis

Good idea, Harvey. How about it, manufacturers and entrepreneurs -- can you come up with something that will do the job, but still be affordable? Or how about some of you enterprising fellows offering a boiler testing service for a reasonable price on-site at the various steamups? I'll bet most of us would be happy to pay a few bucks to have a hydro-test done. Just remember -- safety should always be our primary concern, and if we don't take care of things like this ourselves, within our own community, the government will get involved and make a mess of it for all of us! --ed.

Royersford, Pennsylvania

Dear Ron,

I just wanted to send a quick note to thank you for your recent advice about my Creekside Baldwin, and to let you know how things went. Since I last wrote, the engine is running fairly well.

I finally set about the task of disassembling and cleaning it, and that seems to have done the trick. The flames were always decent, the fittings and surfaces were all tight enough, and the head of steam seemed fine -- it just didn't seem to use it efficiently. My best guess is that it had some dried oil or other gunk on and about the (cylinder) faces and ports. I have also purchased a fresh quart of steam oil from J.M.G. Hobbies, and it seems to help. I received VERY fast and friendly service there, by the way.

As for my railroad, I saw some little 3 inch high fellows with rods, transits and tape measures out back the other day. I think that they were surveying.....

Thanks again; looking forward to the next issue!

Ed Kabak





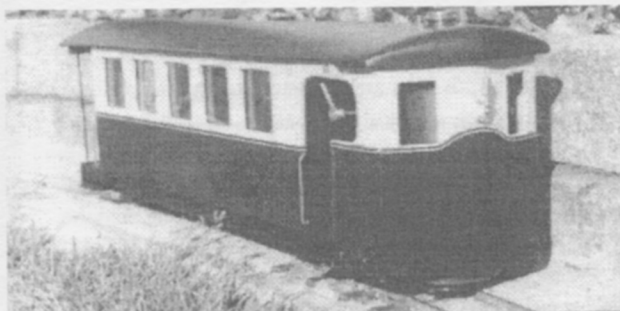
WHAT'S NEW?



In the January/February issue we ran a piece with photo in the WHAT'S NEW? column about the live steam powered Locomotion Railcar. Railway Garden Ltd. was planning to import them, but later changed their mind. We've received a lot of calls and letters from readers, asking for more information about where they can get this neat and affordable little steamer that received high praise from Dave Pinniger in a review in the British magazine GardenRail -- so here it is.

STEAM POWERED RAILBUS

Specification: Vertical boiler with gas burner mounted on power unit supplying twin oscillating cylinders driving front axle. Fitted with regulator, forward/reverse control, water gauge, pressure gauge and filling system (Goodall type). Can be supplied with alternative system (Enots) at extra cost (£19.50). Painted to your own colour scheme and available in gauge 0 or gauge 1 **£260.00**



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Small Parts Inc., P.O. Box 4650, Miami Lakes, FL 33014-0650, phone 305-557-8222 or fax 1-800-423-9009, now has a new catalog, No.15. This catalog is filled with neat stuff that we can all use, particularly those of us that scratchbuild, kitbash or do our own repairs. SPI specializes in very high quality, hard-to-find items, and they really do a great job of it. Need some stainless steel wire mesh, maybe for a burner fix as shown in our new FIXES feature in this issue? SPI has it in several sizes and grades. Looking for a metric nutdrivers in those really small sizes to assemble your new Aster locomotive kit -- or to maintain your stable of hard working locomotives? SPI has 'em, and they're the best quality tools you can find. How about Heat Shielding Compound for brazing or soldering; or Fiberfrax Paper, an asbestos free insulating material that's ideal for lagging steam boilers and steam pipes? Tools, raw materials, tubing, adhesives, chain, sprockets, gears -- you name it, SPI has it. They do have a \$15.00 minimum order, but you definitely won't have a problem coming up with a list of \$15.00 worth of useful items in this catalog. If you're a serious modeler, you need a copy of this catalog in your reference library!

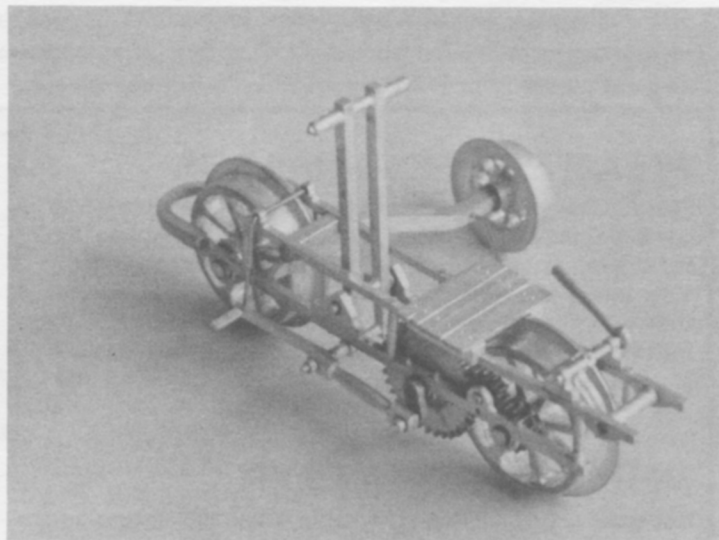
Llagas Creek Railways, Dept. LS, 2200 Llagas Road, Morgan Hill, CA 95037-9429 -- phone/fax 408-779-4391 announces that they now offer Tenmille ground throws on all their turnouts. These ground throws are very robust and will take just about anything that the rugged outdoor environment can throw at them. We've used them on our own Silo Falls Scenic Railway for years, and have never had one break or wear out for any reason. A great addition to the fine line of turnouts by Llagas Creek Railways. Give them a call or drop them a line and check it out.

J.M.G. Hobbies, P.O. Box 960, Port Ewen, NY 12466 -- phone 914-338-0817 or 24 hr. fax 914-331-2794, is now taking orders for a new live steam locomotive being built by Pearse Locomotives in England. "EUROPA" is a freestyle model of a typical European narrow gauge 0-6-0 tank locomotive, similar to those manufactured by Henschel, and Orenstein and Koppel. The model is designed to 'G' scale with the LGB and Continental modeler in mind. The wheels are rim insulated and turned to LGB profile so as to negotiate LGB turnouts. The engine is internally gas fired, enabling it to run happily in almost any weather conditions, and it is quite safe to run indoors. Radio control for speed and direction is standard. The cab roof lifts up to give access to gas filler, boiler water filler and the lubricator filler. The boiler has a water level check valve with the overflow piped away below the frames, and the lubricator is fitted with an underfloor drain tap. These features enable the loco to be serviced easily and help keep the cab free from excess oil and water. The body is constructed from etched brass and is detailed with brass and white metal castings, and it captures the flavor of a European narrow gauge locomotive. For more information, contact Joe Macaluso at J.M.G. Hobbies.

Aster Hobby West/J.J. Enterprises sent the following news release: "Aster hasn't forgotten the American Customer. J.J. Enterprises has taken the challenge of putting an Aster Locomotive into everyone's Garden. J.J. Enterprises is also ASTER HOBBY WEST, your new Aster Importer. Aster Hobby West will do everything in our power to keep your local Aster Dealer well stocked and informed of new products. If you need repair parts such as "O" Rings, screws, wick material, water glasses, safety valves or gauges, we have a good stock to take care of your needs." Aster Hobby West, John & Jeanette Wieland, P.O. Box 1226, Cypress, CA 90630 -- Phone/Fax 714-826-1537.

Aster Hobby Co., Inc. has announced a model steam locomotive of awesome proportions -- the 4-8-4 + 4-8-4 Beyer Peacock Garratt NSWGRAD-60. This locomotive is powered by 4 cylinders equipped with Walschaerts valve gear. Fuel is alcohol or coal. This locomotive is not a pipe dream -- they will be available in June, 1994. A photo of this loco is included in the new Aster catalog, and it's so big that it takes a foldout page to get it all in! **For more information, contact your Aster dealer or Aster Hobby West, P.O. Box 1226, Cypress, CA 90630 -- Phone/Fax 714-826-1537.**

Ozark Miniatures, P.O. Box 22, Linn Creek, MO 65052 has introduced a bunch of excellent new castings to their already lengthy list of items for large-scale model railroaders. One new item that we saw on their stand at Diamondhead is a Velocipede Inspection Car, kit #OM-58 @ \$19.95. This builds into a really interesting little piece of machinery to liven up most any part of your railway. The #OM-57CR Crane kit @ \$16.75 is a fine, realistic little loading crane and a kit-basher's delight, as it can be fitted to loading platforms, flatcar decks, or anything you can imagine. Other details by Ozark include tie plates for code 215, 250 and 332 rail, large "POP" valves, loco & tender poling pock-ets, 6" steam gauge, boiler washout plugs, boiler steps, 21" pressed steel wheels and 14" cast iron wheels. Write to Ozark at the address above and include \$2.00 for a new catalog and more information.



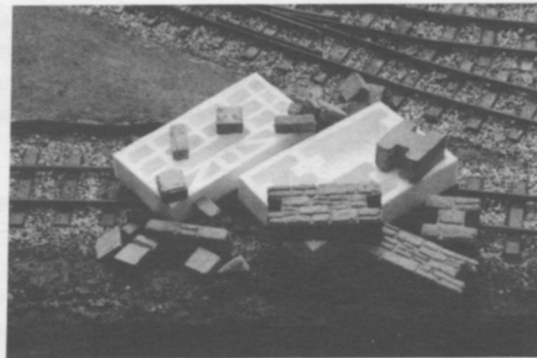
Sherline Products, 170 Navajo Street, San Marcos, CA 92069-2593 -- phone toll free in the USA 1-800-541-0735, now offers an extended bed version of their well known hobby lathe. In addition to 17" centers (9" longer than their standard lathe), Sherline offers a whole package of special features in keeping with the higher capacity. Machining capacity is further enhanced by adding 2 inches to the crossslide length, which increases crossslide travel from 2.25" to 4.25". Sherline's recently released Zero-Adjustable Handwheels are also included on both axes and the tailstock spindle. The new lathe accepts all existing Sherline accessories and, at 27" overall length, the extended bed lathe is still small enough to use on a workbench or kitchen table and store on a closet shelf. A metric version is available, and Sherline's new electronic speed control adjusts automatically from 100 to 230 volts, 50 or 60 cycle current for operation anywhere in the world. Price of part no. 4400A Long Bed Lathe Package is \$650.00 -- \$660.00 for the metric version. Part no. 4400 Long Bed Lathe only is \$530.00 -- \$540.00 for the metric version. Contact your Sherline Products dealer for more information. **Rich Garich of Garich Light Transport, 14582 Aspen Circle, Huntington Beach, CA 92647 -- phone/fax 714-893-6540** is a Sherline dealer, and Rich sent us this press release. Give him a call or drop him a note to find out how you can improve your home workshop and get more pleasure from your hobby with quality, affordable, Made in USA Sherline Products equipment.

SitG subscriber, contributor and fellow live steam fanatic **Tag Gorton** (his Longlands & Western Railway was the subject of the cover photo on our January/February issue) sends word about an intriguing new product from England. **Jig-Stones**, created and marketed by **Peter Chandler, 19 The Cravens, Smallfield, Surrey RH6 9QS, ENGLAND**, is a complete system of silicone moulds to enable the garden railwayman to cast, using inexpensive cement, plaster or one of the new "Wonder Cast" products, all the necessary bits & pieces to create stone or brick bridges, buildings, walls and anything else you can think of that might be made of stone or brick. Peter even offers miniature ivy to give your stone buildings a "mature" look! Available for 16mm scale or "G" scale, this looks to us like just the thing to give your railway a unique look, rather than the "rubber stamp" effect that occurs when you see the same structure on every railway you visit. We were so impressed with the realistic appearance of the Jig-Stones buildings and structures that we have acquired a set of moulds and will be bringing you an in-depth review of Jig-Stones in the July/August issue of SitG. But don't wait for the review -- beat your friends to it and be the first in your neighborhood to add some outstanding stone structures to your garden railway -- drop Peter Chandler a line and ask for his excellent and complete catalog on this nifty new product.



Left: Station building constructed entirely of parts made from JigStones moulds.

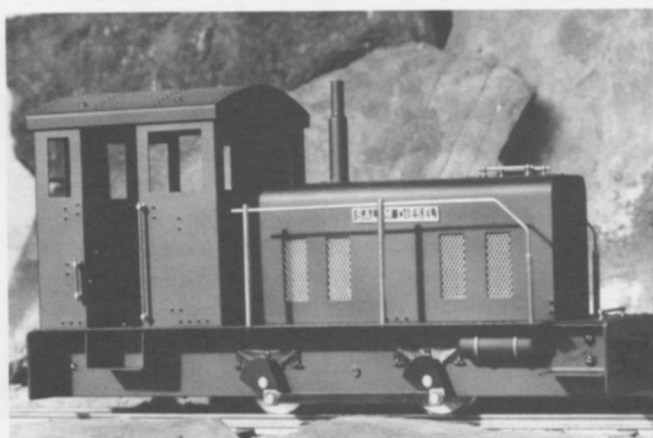
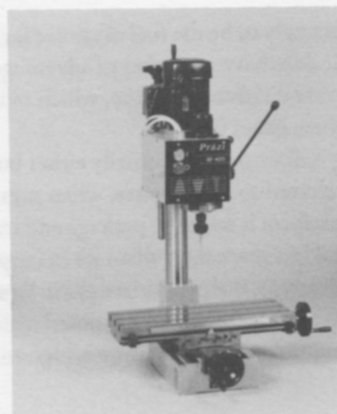
Right: Finished parts being removed from JigStones moulds.



DOWNTOWN DECO, P.O. Box 396, Stevensville, MT 59870 has a line of nifty items to add realism and interest to your structures and your railroad. The item that caught our eye, and which we received a sample of, is the line of fruit crate labels. These make great billboards, and can be rubber cemented to the side of structures, such as stations, barns, etc. They also have reproductions of vintage advertisements (Coca Cola, etc.) that could be used in many ways. In addition to a wide variety of signs & such, Downtown Deco also has items like roofing tarpaper, simulating old roofing and complete with patches. Write for their catalog and check it out.

J.M.G. Hobbies, P.O. Box 960, Port Ewen, NY 12466 -- phone 914-338-0817 or 24 hr. fax 914-331-2794, announces their appointment as an East Coast Aster Dealer. J.M.G. is now a dealer for Aster, Pearse, Roundhouse and Salem Steam Models locomotives. J.M.G. also has high quality Mobil steam cylinder oil and Century Iso-Butane. For your convenience they now accept VISA and MASTERCARD.

International Sales & Marketing Group, 5151 Oceanus Drive, Suite 109, Huntington Beach, CA 92649 -- phone 714-379-1380 or FAX 714-379-1385, announces a new product -- the Prazi BF 400-450 Precision Bench Top Mill. This high precision mill offers heavy duty milling and drilling capabilities. It weighs 220 lbs. and it's compact, robust design offers great versatility and precision accuracy. Prazi mills carry a one year warranty and are available in belt and geared head models. Table travel is 11-1/2 x 5-1/2 inches, with .0002 repeatability. The BF 400 has a mill head that can swivel 360° and has a 1/3 horsepower motor that offers 4 spindle speeds ranging from 365 to 1800 rpm. For Prazi parts, service and sales, contact ISMG at the address or phone/fax numbers listed above.



Above: SALEM "Super" Diesel, this particular model is fitted with flycranks and coupling rods.

Photo by Chris Heath

Below: Rio Pecos custom wood cab on Maxwell Hemmens Porter locomotive. Mahogany and white oak construction, with tightly fitted joints.



Salem Steam Models, Brynglas, Salem, Llandeilo, Dyfed SA19 7HD, U.K. -- Phone 011-44-558-822-530, has expanded their line of 16mm/G Scale Battery "Diesel" Locos. All are available in both gauge 0 and gauge 1 versions. Additions include the Enclosed Gearbox Model, which consists of the Standard Model, but fitted with a larger motor with a totally enclosed all-metal gearbox with outside frame flycranks and coupling rods. Price of this model is £195.00. The Twin-Motored Loco consists of the Standard Model, but fitted with twin motor/gearbox assemblies for extra haulage and smoother running. Battery capacity is doubled for long duration. Operating headlights are fitted as standard on this model. Flycranks are not available. Price is £186.00 for the gauge 1 version. Last, but certainly not least, is the Super Model, a deluxe Industrial Style version fitted with a lot of extra detail parts, including full side guard rails, compressed air tanks, a working horn, front and rear operating headlamps, and more. Price w/ flycranks & coupling rods is £222.00. Twin motor version, no flycranks is £205.00. For North American customers these locos can be fitted with a socket to accept a 7.2v, 1200ma nicad pack, readily available from hobby shops, Radio Shack, etc. A choice of color schemes is available on each loco -- all black, black w/red frames or green, blue, maroon or yellow with black frames. Buffer beams are red, cranks and coupling rods are red or yellow. Contact your Salem Steam Models dealer or SSM direct for more information. Visa/Access/Mastercard accepted -- \$2.00 for lists.

Rio Pecos Garden Railroad Co., 27136 Edenbridge Ct., Bonita Springs, FL 33923 -- phone 813-495-0491 is offering a replacement cab for the new version of the Maxwell Hemmens Porter. This cab really enhances the appearance of the Porter, and, as with all Rio Pecos products, is made of quality hardwoods and metal with professional fit and finish. The cab can be used as a slip-on, bolt-on or with your choice of fasteners. The roof lifts off for easy access to the cab interior. Contact Rio Pecos for more info on this cab, plus their whole line of steam locomotives and fine wood products for garden railroads.

The Steamchest

by Marc Horovitz

Gas Firing

Gas seems increasingly to be the fuel of choice for firing small-scale live steamers. It does have a number of advantages over other fuels, but it has a several disadvantages, too, which must be considered. We'll explore these issues this time.

When gas firing is discussed, it is usually either butane or propane that is being referred to. Most gases, when pressurized, will become liquid. In this form it is easy to package and transport, and it takes up a great deal less space than when it's in its gaseous form. When we buy a bottle of gas, it is pressurized gas in liquid form that we are purchasing. As soon as this liquid is exposed to normal atmospheric pressures (assuming the temperature is high enough) it immediately gasifies.

PROPANE vs. BUTANE

Propane has some minor advantages over butane. It is usually cheaper and easier to find in small quantities, and it performs well in cold weather. Butane, on the other hand, will liquefy at around 32° F, at which point it becomes useless as a pressurized fuel. When it's liquid, there's no pressure. Heatwise, both gases burn at around the same temperature, so there is no significant advantage of one over the other.

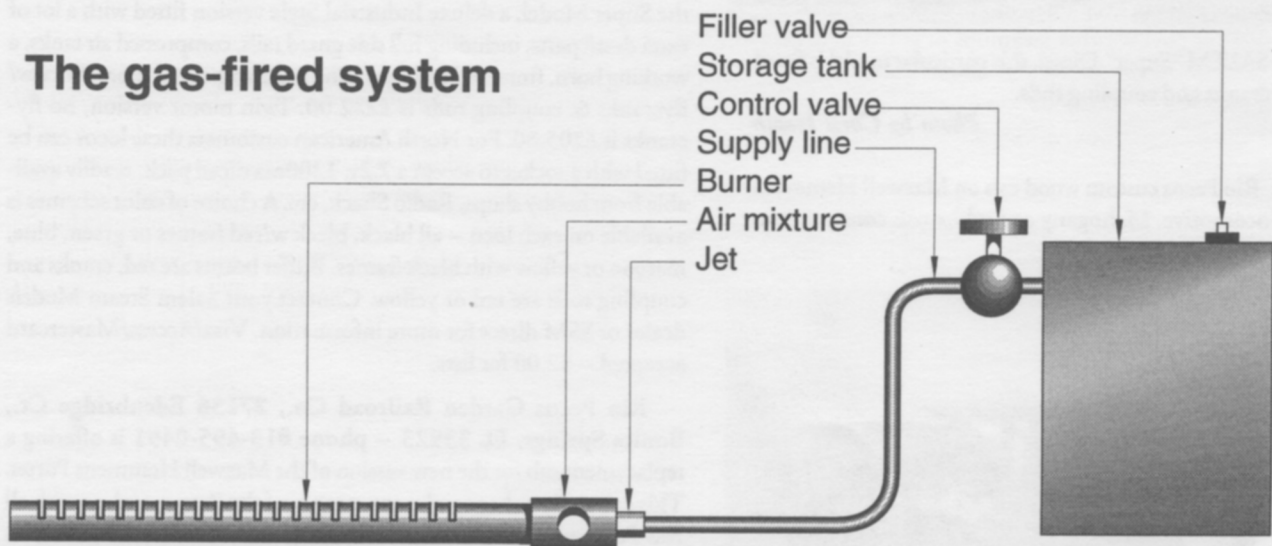
Propane, however, has one serious drawback. Its storage pressure is considerably greater, and rises even higher when it is warmed. A gas reservoir that is mounted, say, in the cab of a small gas-fired tank loco, will be subjected to the heat of the boiler, and the storage pressure will become extreme. This is not necessarily a bad thing, if the fuel tank has been designed for these pressures. However, most commercially available locomotives have fuel tanks that have been designed for butane. Filling them with propane could be very *dangerous*, and should never be done.

A gas tank is a pressure vessel in much the same way that a boiler is, and must be constructed and tested to withstand the forces involved. This point cannot be stressed enough. I've never heard of a mishap involving a gas tank on a small-scale steamer, and I don't ever want to.

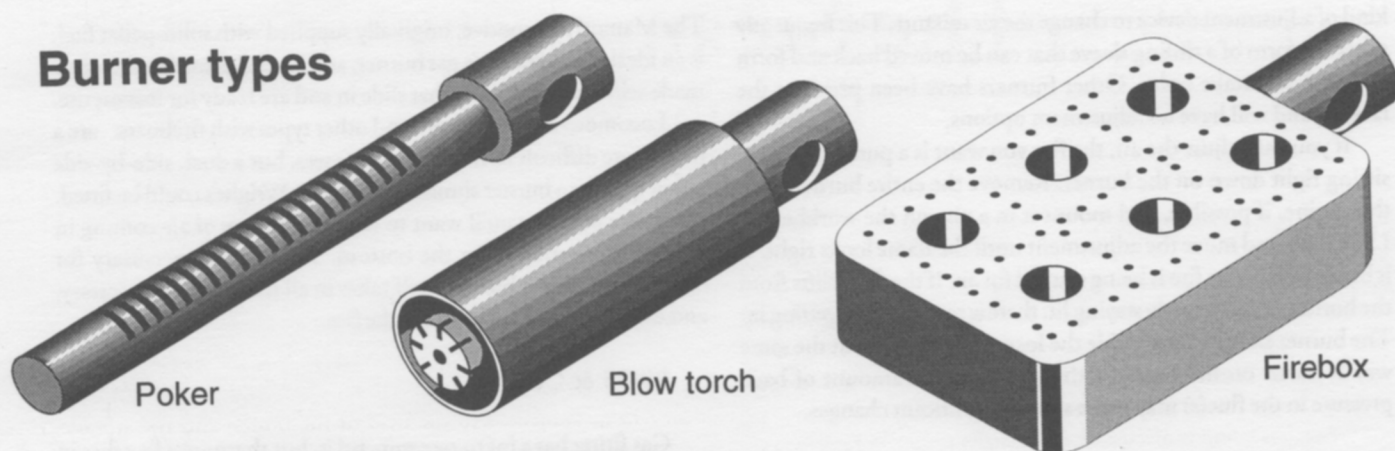
FILLING

All gas-firing systems have several things in common. The gas is usually carried in a tank that is built into the engine or tender. Gas must be transferred from an outside, or parent, container into the engine's resident tank. This is usually done through a self-bleeding pressure valve in the resident tank. The nipple on the parent tank is

The gas-fired system



Burner types



pressed onto the valve and, if the planets are properly aligned and you hold your mouth right, the gas will transfer from one tank to the other until the latter is full. You can tell it's full because the tone will change and you'll see liquid gas spurting from around the valve.

The filling process can be complicated by a variety of woes. If there is a little residual gas in the resident tank, which may also be warm, the pressure within may be higher than that of the parent tank. If this is the case, the gas won't flow, but will squirt out around the valve. If the valve is faulty, or of the non-self-bleed type, the gas won't flow. If the parent tank is considerably cooler than the resident tank, the gas won't flow properly, though you may get a little into the engine's reservoir. This is usually just enough to get the engine properly lit and to create a false sense of security, leaving you to think that all is well. When you return five minutes later expecting to be up and away, you find the fire out and the locomotive stone cold.

In cooler weather it is advisable to keep the parent gas tank warm. If you are using the smaller cigarette-lighter refills from Ronson, for instance, you can keep them in a pocket or stuffed down a shirt. I've visions of cold weather steamups of yore where many of the participants exhibited strange and various bulges on different parts of their anatomy from butane cans being stuck hither and yon. Larger containers could be kept indoors, or even in half-full buckets of warm water.

From the tank, gas is let into the line through a control valve. This is most often a needle valve, and these are usually very reliable. I've seen one or two locomotives with a secondary holding tank and valve between the primary tank and the jet. This is intended to smooth out the flow of the gas and to provide better control, which it may indeed do. However, this amenity should not be considered a must-have most systems work well enough without them.

THE JET

The next stop down the line is the jet. This is usually a little piece of brass that may seem to entirely plug the gas line. In fact, it has an exceedingly tiny hole in it to allow the gas to pass through. I have seen locomotives with jets that have considerably larger orifices. Generally, the smaller the orifice, the higher the velocity of the gas.

It's this jet that is the cause of more teeth gnashing and hair pulling by gas-engine owners, than any other part of the system. It doesn't take much to clog a hole that is so small that you can hardly even see it. A fully clogged jet is usually pretty easy to diagnose, though. The engine has a full tank of gas and you open the valve: no hiss, no fire, no nothing. The problem is either is the control valve (unlikely) or in the jet.

It is the partially clogged jet that can be a real bear to diagnose. If there is only minimal blockage, the locomotive may behave perfectly normally, but perhaps with a slight lessening of performance. What's causing it, though? Is it adverse weather conditions, valve timing, dirt in the bearings, not enough lubrication, a faulty throttle, something in the steam line... or a partially clogged jet? More serious blockage may intensify the problem and eliminate one or two of the above choices, but you can spend hours trying to narrow down the problem and find the culprit. I have, on more than one occasion. Of course, once the problem has been solved and remedied, performance improves miraculously.

The solution is usually simple, once found. Some locomotives are supplied with a tiny wire that can be pushed through the orifice to clear it. This is best done after the jet has been entirely removed from the system. Otherwise, you are just pushing the obstruction back into the line, where it will lie waiting for a suitable opportunity to leap enthusiastically back into the jet's orifice. The other solution is to simply replace the entire jet, which usually represents a minimal cash outlay. Many modern engines are supplied with jets that deliberately are easy to get to, these problems having been anticipated by the manufacturers.

Also, if you clean the orifice with the wire and find the fire is not up to snuff, you may have damaged the orifice with the wire. The jets are usually made of brass (soft), while the cleanout wires are stainless steel (hard). It doesn't take much of a scratch to damage the orifice beyond use.

GAS AND AIR

Before actually entering the burner, the gas usually passes through a mixing chamber. It is here that the pure gas is mixed with air to form an ideal combustible mixture. Many burners will have some

kind of adjustment device to change the air mixture. This frequently takes the form of a sliding sleeve that can be moved back and forth over the air intake holes. Other burners have been preset at the factory, and will have no adjustment options.

If you can adjust the air, the fire you want is a pure blue flame sitting right down on the burner. Remove the entire burner from the engine, if possible, and mount it in a vise on the workbench. Light it up and move the adjustment until the flame looks right. If it burns yellow, the fire is being starved for air. If the flame lifts from the burner, or has trouble staying lit, there is too much air getting in. The burner should burn inside the locomotive just about the same way it burns on the bench, although the small amount of back pressure in the flue(s) may cause some insignificant changes.

THE BURNER

The actual burner can take many different forms. The most common is probably what is referred to the "poker"-type burner. This is most commonly used in single-flue, internally-fired boilers, but it can be used as a burner for a pot boiler as well. The burner is a tube, sealed at the forward end, and plugged into the mixing chamber at the rear end. A series of slots is cut into the top of the burner, where the gas emerges and ignites (see sketch).

Another type of burner is the "torch" type. This is little more than a blowtorch tip that is aimed straight into the boiler's flue. Because of the velocity of the gas, most of the heat will just go straight through and out the top unless there is some provision for trapping it. This can be done by building cross tubes into the flue ahead of the fire. These tubes will both retard the flame and provide more heating area. Cross tubes are usually installed across the main flue at 450 to the horizontal, and at 900 to each other.

Solid rods can be used in place of tubes. These should be made of stainless steel, as they will become red hot in the presence of the gas flame. They should extend through the main flue wall and well into the boiler, to conduct the heat into the water. A large number of these rods can be used, but care must be taken not to let the water level fall below the top of the main flue, or damage could result.

Malcolm Wright of Scotland uses a burner adapted from the larger scales. This is a flat box that sits in the firebox of a Smithies or locomotive-type boiler. The gas/air mixture is let into the side of the box. The top of the box is perforated with many tiny holes, where the gas emerges and ignites. Tubes are run top to bottom through the box (see sketch) to admit more air, which is supposed to enhance combustion. While more difficult to construct, this burner may be the most suitable gas burner for engines that have more traditional fireboxes.

APPLICATIONS

Gas firing can be applied to most types of boilers. It is ideally suited to single-flue internally-fired boilers, which are only slightly more difficult to build than pot boilers. The advantage to internal firing, particularly for American builders, is that the space beneath the boiler can be left open. This, coupled with Us-style bar frames, makes for the airiness that is typical of American locos.

As mentioned above, gas firing can also be used for pot boilers.

The Mamod locomotive, originally supplied with solid-pellet fuel, is an ideal candidate for a gas burner, and several manufacturers had made self-contained units that slide in and are ready for instant use.

Locomotive-type boilers and other types with fireboxes are a little more difficult to fit with gas burners, but a dual, side-by-side poker type, or a burner similar to Malcolm Wright's could be fitted. If you use pokers, you'll want to restrict the flow of air coming in around the burner from the bottom. This air isn't necessary for combustion, as the burner itself takes in all the air that's necessary, and cold air coming in can cool the fire.

PROS & CONS

Gas firing has a lot to recommend it, but there are a few flies in the ointment as well. On the good side, it is generally a clean fuel to use. Gas isn't messy to handle, and it burns cleanly and won't mess up your engine. It can be used with simple or complex boilers, and the intensity of the fire can be easily controlled with the supply valve. Butane and propane both burn much hotter than alcohol, and so boilers can be designed with less surface area.

On the deficit end of things, gas is more expensive than other fuels. It requires a relatively complex system for use, which includes the filler valve, storage tank, control valve, supply line, jet, mixing chamber, and burner unit. There is a lot to go wrong here, and little problems are often difficult to diagnose.

Gas-fired locomotives, particularly those with large internal flues, tend to make a variety of odd sounds, from a nearly inaudible hiss, to a loud and objectionable roar, to a ghastly low moan that will stand your hair on end. These audio gremlins can be adjusted out to some extent, but must sometimes just be lived with, depending on the engine.

Propane has high storage pressure and butane liquefies at 320° F, as mentioned before. Storage pressure of both butane and propane will rise as the tank warms up. This means that if the tank is mounted on the locomotive (as opposed to in a tender) the heat from the boiler will warm the tank, raising the pressure within, and requiring the fire to be adjusted on an ongoing basis.

Butane is heavier than air. If there is an unnoticed gas leak, the gas could settle around one's feet and ignite when the fire is lit (it's happened to me). For this reason, it's better to fuel the engine in one place and light it up in another.

Gas burns hot enough to damage a boiler if the boiler is allowed to run dry. Depending on the type of boiler, this could be anything from minor paint discoloration to major structural damage.

And finally, gas is nontraditional, if that matters to you. It is a more-or-less modern-day fuel, and it flies in the face of over a century of civilized, satisfactory alcohol usage, causing those who are steeped in the traditions and ceremonies of tiny locomotives to rise up in slobbering, red-eyed, apoplectic rage whenever the subject of gas is mentioned. Alcohol, the noble fuel, will be discussed next time.



The Fitter's Bench

by Crankpin

At the conclusion of my last article I promised that we would next have a discussion of lathe bearings and bedways, and someday we shall as these are indeed two very critical elements of lathe design. However, it occurred to me after beginning what I reckoned would become my next article, that I was about to jump a bit ahead of myself and omit an important step or two. I sometimes forget that I must be very careful to follow a logical sequence of descriptions if any of this is to make sense at all to those out there who are just joining the ranks, the very ones that I am most eager to help along. In light of this, an adjustment in course is called for.

As I continue to go about describing the workings and construction of metal lathes, I will regularly need to call out the names of individual lathe parts and working components, many of which could be unfamiliar because for a few of you this might be the only exposure you have had to this information. So before I go any further with these lathe writings I will momentarily shelve the usual dose of technical information and the occasional personal opinion, welcomed or not, and take the time and space to deliver a little basic educational material on the lumps, knobs, and widgets that make up the various parts of the typical amateur's lathe. These functions are universal in nature and are to be found, with some minor variation in location and appearance, on most all center lathes regardless of size. Of course on some machines they will not be found at all due to size. Nevertheless, when present, their basic function and operation will be essentially the same.

The identification, sizing, and capacity of the center lathe has been covered, hopefully in an understandable way, in a previous issue and I know of little more that I could wish to add to that here. Next up then, after size and capacity, when one sets out to evaluate and select a lathe, are the various features and options which can increase its versatility and operational convenience. Many of these features will also have an effect upon the selling price as some are more costly to include in a machine design than others. While I will not take the time to describe each of these options in depth in this issue, I will call your attention to those features which may vary from machine to machine and when their presence is likely to affect the selling price. So on to Figure 1 where the parts of a typical 5" center height lathe are labeled.

First let us deal with the **Bed** (1-1), which is the backbone of the machine. The stiffness (and structural mass) of the Bed is one of the characteristics which determines the potential accuracy (and cost) of the machine. The **Ways** (or Bedways) (1-2) are rail-like extensions of the Bed casting and are usually (but not always) cast integrally with the Bed. The Ways are guiding surfaces which are milled to shape (which varies between manufacturers) and then precision ground straight and true. The

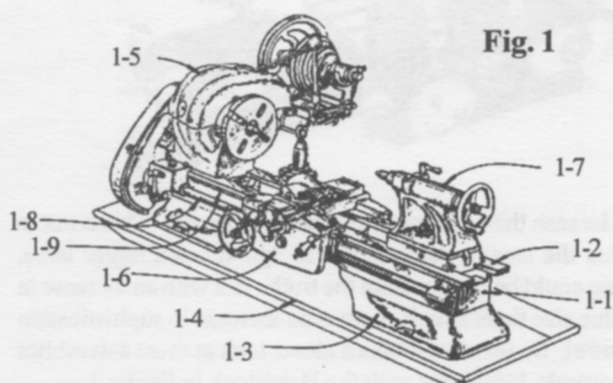


Fig. 1

Bedways of many lathes can be had induction hardened to better resist wear, and although this option adds slightly to the price of the machine, it is money well spent. On many new machines nowadays, the Bedways are hardened as a standard feature.

The **Feet** (sometimes also called **Legs**) (1-3), are an extension of the Bed which provides a point for mounting the machine on its bench or stand. Very often lathes will not have separately attached Feet as these will be found to be a part of the Bed casting itself. The **Chip Pan or Tray** (1-4) has for some years been supplied with many new machines from the factory, primarily those of 3.5" and larger, but one can easily be home-built from sheet metal and is a very handy addition to keep the bench top (and the floor) a bit more tidy.

Staying with Figure 1 for the moment, you can see that the Bed serves as the carrier for all the other major components. The **Headstock** (1-5) is usually a separate assembly and is machined to bolt permanently to the Bedways. The fitting of the Headstock to the Bed must be carefully done so that the Spindle axis is dead parallel to the axis of the Bed. The **Carriage** (1-6) and **Tailstock** (1-7) assemblies are the moving components of the lathe and both also rely upon the guidance of the Bedways for accurate alignment and operation. The **Lead-screw** (1-8) is usually carried by a bearing block or bracket attached to the Bed and is driven by gearing within the Headstock. Most lathes also have a linear gear called the **Rack** (1-9) attached to the Bed along its front side. The purpose of the Rack is described a bit further on in the paragraph on the Carriage and Apron.

An illustration of a typical miniature lathe is shown in Figure 2. This example is a Cowells Model ME90 of 1.75" center height, which is manufactured in England. As we can see, the basic structural components of the machine are essentially the same as found on its larger brothers. However, when we look more closely into the details of construction of the larger lathes,

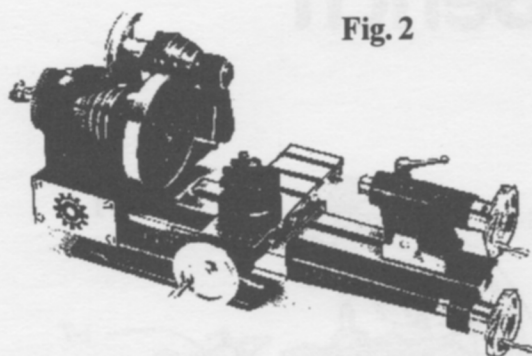


Fig. 2

it can be seen that there are a number differences. This is not to say that the smaller lathe is not as "good" as a larger lathe, nothing could be further from the truth. But with an increase in machine size there usually comes an increase in sophistication of control. So let us now take a closer look at these assemblies and controls, beginning with the Headstock in Figure 3.

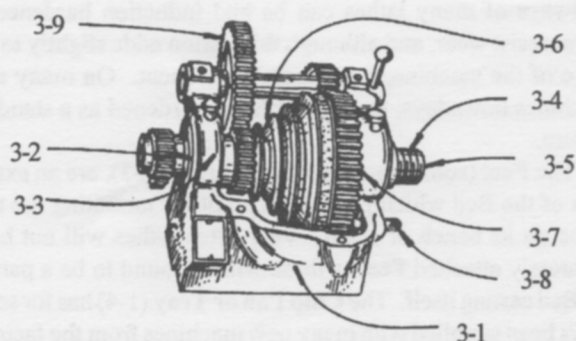


Fig. 3

The **Headstock** (Figure 3-1) serves primarily as the carrier for the **Spindle** (3-2), which runs in the **Spindle Main Bearings** (3-3). The **Spindle Nose** (3-4) of most lathes for the amateur are usually threaded on the outside for screw-on mounting of chucks and other attachments. The (internal) **Spindle Nose Taper** (3-5) accepts dead centers and other tooling with tapered shanks. The other parts of a typical Spindle are the **Step or Cone Drive Pulley** (3-6), shaped for either flat or V-belt drive, and the back gear **Bull and Idler Gears** (3-7). In a few lathes the Bull Gear is drilled in its rim with 360 equally spaced holes and is fitted with a **Index or Detent Pin** (3-8) which allows dividing by degrees of circle; a very handy thing to have. In Back Geared Screw Cutting (BGSC) lathes, the **Backgear Countershaft** (3-9), when engaged, offers a range of slower spindle speeds. Somewhere on or near the headstock will be a **Tumbler Gear Lever** (Fig. 7-3 & 4-3) the purpose of which is to reverse the rotation of the Leadscrew, and therefore the direction of the feeds.

In a typical basic machine, and in most mini-lathes and many older machines, the Headstock also carries the **Change Gears** (4-1). These are a series of spur gears which drive the **Leadscrew** (4-2) from the end of the turning Spindle, and the **Tumbler Gears**, mentioned above, are usually a part of the Change

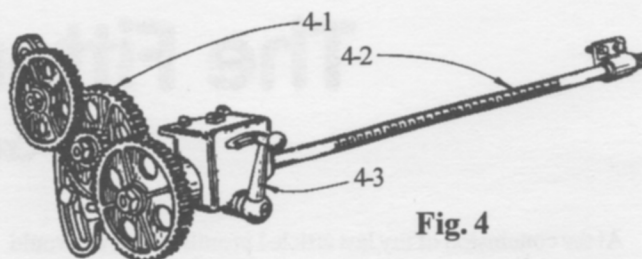


Fig. 4

Gear train. Although there are thousands of "Change-Gear" lathes in use in workshops all over the world, this arrangement has largely been replaced by the Quick Change Gearbox and I will address this handy item in more detail a bit further on.

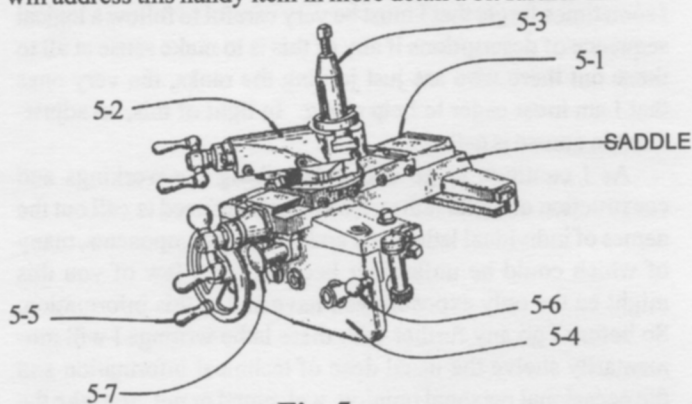


Fig. 5

The **Carriage** (Figure 5), which is also referred to as the **Saddle**, is comprised of three subassemblies: the **Saddle**, the **Apron**, and the **Compound**. The components of the Compound are the **Cross Slide** (5-1) and the **Top Slide** (5-2), which may be rotated to 360 degrees. The Compound also carries the **Toolpost** (5-3), which can perhaps be more accurately described as an "attachment" rather than a structural component.

The lower part of the Carriage is called the **Apron** (5-4). This assembly contains the gear mechanisms and controls which provide powered movement of the Carriage for cutting and threading and in most larger lathes, powered cross feeds. A gear in the Apron engages the **Rack** (1-9) and provides powered movement of the Carriage along the Bed. There is a good bit of variation between lathes as to what controls are available on the apron and as to their placement. However, in general the average amateur's lathe will have a Carriage **Handwheel** (5-5), a **Feed or Half-nut Lever** (5-6), and the **Crossfeed** (5-7) engagement lever.

On a few lathes, notably those manufactured by South Bend (USA) and Boxford (UK), the Apron controls can get rather complex. Both of these machines have not only Handwheels and Half-nut Levers, but an additional indexing lever that controls the both the selection and direction of the longitudinal (Carriage) and power crossfeeds, and a knob to actuate an adjustable slip-clutch drive to all the apron feeds.

The **Tailstock** (Figure 6-1) has two primary tasks: to provide the rear support point for work being turned between **Dead**

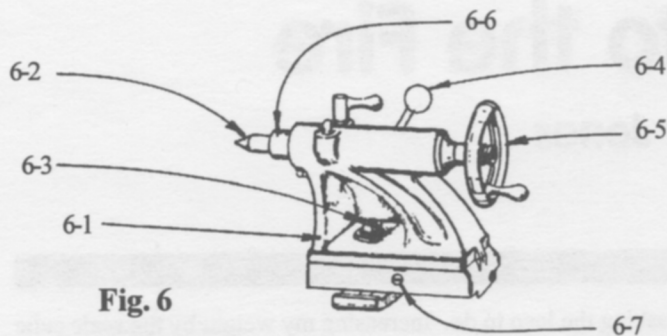
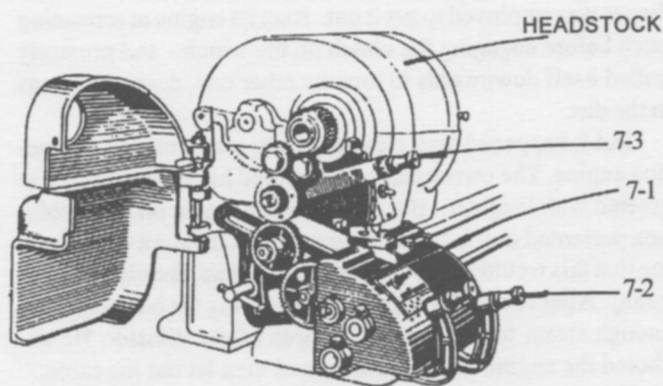


Fig. 6

Centers (6-2) (thus the origin of the term “center lathe”), and for holding cutting tools and accessories, such as a drill chuck for drilling or reaming. The entire assembly rests on the Ways and is guided by the inner sides of the Bedways. It is fully movable along the length of the Bed. When the required position is determined, the Tailstock is clamped in place by a **Clampdown Bolt** (6-3) or, on many newer machines, a cam-actuated **Clamping Lever** (6-4). Turning the **Handwheel** (6-5) will either advance or withdraw the Tailstock **Ram or Barrel** (6-6) which is internally bored to accept tapered shank tooling, in the same manner as the Spindle Nose.

The Tailstock base should always have a **Lateral Adjustment Screw** (6-7) which allows the Tailstock to be aligned so that the axis formed between the Headstock and Tailstock centers is dead parallel with the axis of the Bed. The lateral adjustment feature can also be used to “set over” the Tailstock to allow the cutting of tapers, a practice we will get to know in a future episode.

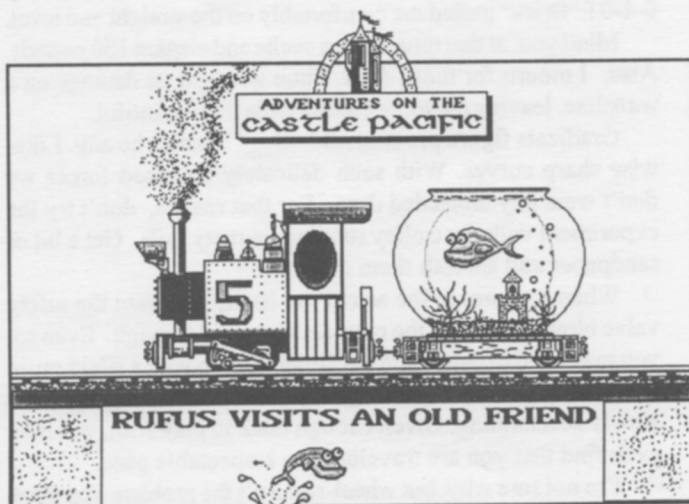


Another feature that is very often found on many new lathes of 3" center height and upwards is the **Quick-change Gearbox** (Figure 7-1), normally referred to in the UK as the Norton gearbox. By means of one or two movable **Selection Levers** (7-2), the Quick-change allows the operator to select from a full range of carriage and threading feed rates at the **Leadscrew** within seconds, whereas rearranging conventional change gears takes many minutes. This feature is especially handy if a great deal of thread cutting is in store, and can lead to improved finish on

other work since it makes it more convenient for the turner to change to the proper feed rate.

For many years the Quick Change gearbox was considered to be a luxury for the amateur, and I suppose that in some quarters that may still be the case. However, over the last 30 years popular demand has caused the Quick-change to become standard equipment on virtually all new machines on today's market. There are several manufacturers who continue to offer larger lathes in models which are not supplied with the Quick-change gearbox, and though it is likely to be a relatively expensive option, I would strongly recommend the Quick-change as a valuable addition to any machine and money well-spent. Unfortunately, manufacturing costs and size constraints make the Quick-change a feature not normally found on the typical mini-lathe or machines below about 3" center height.

I am done for this time, and next time out I will continue with a bit more about the details of lathe construction. In the interim, if you are keen to know more about the parts of the lathe or about workshop practice in general, you will find more within the pages of the many books in print on model engineering and in the nogginns of our more experienced modelers, most of whom are glad to help a newcomer along. Unfortunately, in order to get to this knowledge, you will ultimately have to rise from the divan and search out the books, your fellow modelers, and other resource material on your own. Best get started today, as much valuable time has already been lost.



Gazing Into the Fire

by Peter Jones

Passenger Hauling...

Yes, passenger hauling. You may not know that, given the right circumstances, some of your little dragons can pull you. The power available is small, compared to the massively overscale load, so you have to tackle things the right way.

By far and away the biggest problem is what you use as a driving trolley. I make the obvious point that it has to be light and free running. Although there have been recorded instances of someone balancing on track laid to 1-1/4" gauge (yours truly included) it is fraught with hazard. The kindest procedure is to lay an extra rail on some existing elevated five inch gauge track that you can sit astride.

Ideally the vehicle should be built on the same principle as a jockey's saddle; the lightest possible. A simple length of thin wood - say 12" long - has a ballrace fitted in each corner. Typically a 3/8" diameter steel axle carries a 3"-ish wheel, drilled for lightness. A smaller diameter wheel offers increased rolling resistance.

The loco wants its rear coupler taken off and replaced by a flat steel bar. Don't use loose chain; this can cause trouble when the very heavy load overruns the hauler.

Some small locos are better than others. I suppose that the perfect machine would have 12 driving wheels, a massive boiler and four cylinders. But here we are setting out to prove that an ordinary small engine will do the job. Experience suggests that fifty pounds pressure, or more, is needed for sustained haulage. The early Archangel engines were particularly good. My 0-4-0T "Brick" pulled me comfortably on the straight and level.

Mind you, at that time I was a svelte and elegant 150 pounds. Alas, I mourn for those days. Time wrought its damage on a waistline, leaving me more comfortable than beautiful.

Gradients figure prominently - there mustn't be any. Likewise sharp curves. With such delicately balanced forces we don't want any unneeded drag. For that reason, don't try the experiment with the trolley running on rusty rails. Get a bit of sandpaper and smooth them down.

When it comes to the actual run itself, you want the safety valve blowing off and the cylinders warmed through. Even so, you may need to overcome the initial stiction with a slight push. But then, if you have got it right, you will be moving and even slowly accelerating. Given enough track to play with, you may even find that you are traveling at a respectable pace.

I'm not sure why, but wheel-slip isn't the problem you think it should be. Given dry, clean rail the amount of grip is surprising. You can lean forward and lightly - I said lightly - press down on the loco, doubtless burning your hand in the process.

Let us just stop for a moment and see what it is that we are

asking the loco to do. Increasing my weight by the scale cube factor puts me at a dainty 960,000 lbs., or 428 Imperial tons. . for a little narrow gauge tank engine? No wonder things have to be finely balanced for the experiment to work. But it IS possible. Given double or triple heading, the power increases, of course, but eventually the test loses its meaning. I know of one experiment where 12 HO electric locos pulled a live passenger....

But what does all this prove? Well, for a start, that the iron wheel on the iron rail has a low coefficient of friction. The power to weight ratio is probably only second to that of a canal boat, but without the increased resistance caused by increased speed. Replace the trolley, at ground level, with a small hovercraft and you would get better haulage, lack of directional stability and a wrecked garden layout.

But most of all, it demonstrates the power of steam. The force of the pressure on the piston acts at the lowest possible speeds. You don't need high revs for high power. The larger the model, the more truth this statement has.

I will finish with an anecdote. It concerns a new highway being built and one of the massive diggers involved. One of these was unfortunate enough to discover a soft patch. It rolled down a bank and ended in soft, marshy ground. A second digger was employed to get it out. It set its engine at screaming pitch before engaging the clutch on the winch - and promptly pulled itself downwards to join the other one, despite anchors in the dirt.

But it happened that, close by, there was a preserved traction engine. The owner came and offered his services and was greeted with laughter. But, after a while, when no other solution presented itself, the boss agreed to let it have a try. Knowing that this would be the case, the owner had already got a fire going. After two hours of patiently enduring the banter, he had enough steam to run over to the area of the disaster. He anchored the engine to a tree stump and then let out his cable.

Yes, I am sure you can see it coming... with a gentle flick of the lever, he calmly began to haul up both diggers at once. As they were slowly coming up, he asked for payment from the boss. This latter said that there would be no payment - after all, nothing had been agreed beforehand. With a sigh, the owner gently flicked off the pawl and let the diggers run slowly back to the bottom. Needless to say, he went home well rewarded that night - thus proving the power of psychology and the power of steam.



ROUNDHOUSE

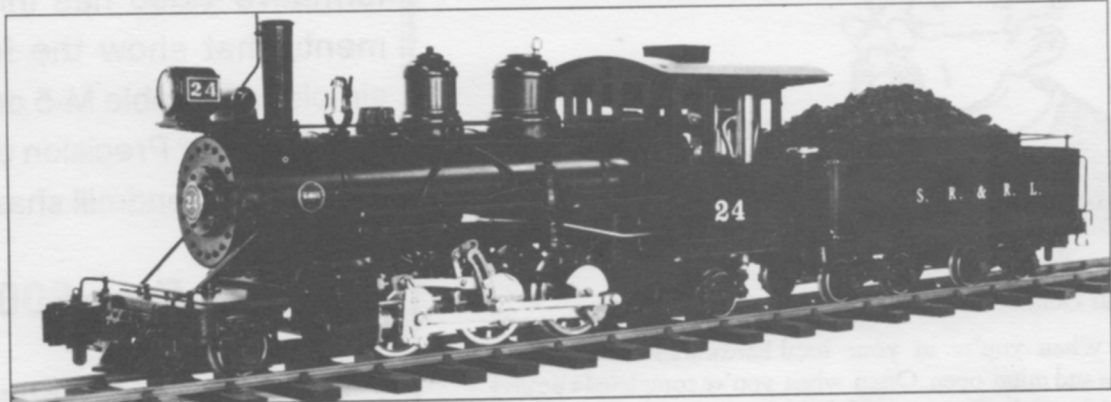


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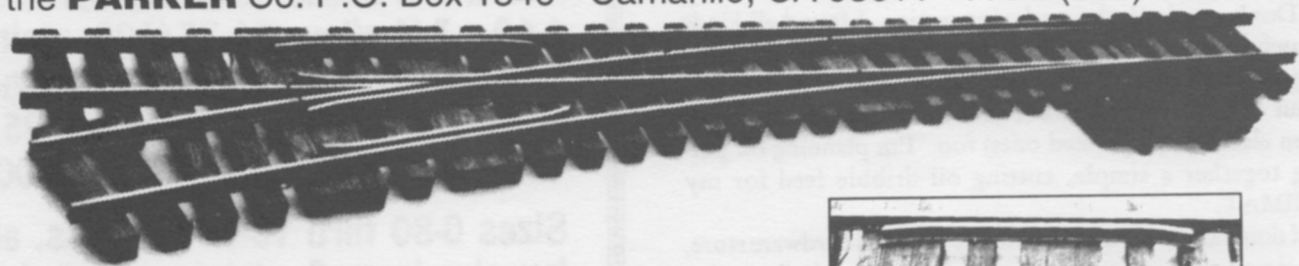
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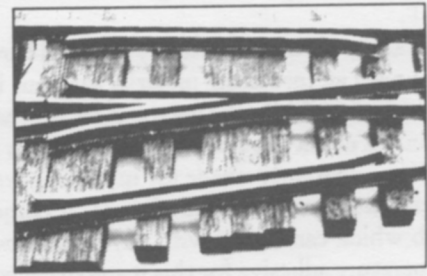
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LETTERS FROM THE OLD CURMUDGEON

Young men think old men are fools; but old men know young men are fools.

George Chapman



The Old Curmudgeon

Dear Gene -

When you're in your local hardware store keep your eyes and mind open. Often when you've completed a project which needs some sort of finishing touch go to the lamp section of your hardware store and look around. They usually stock things called "lamp finials" which range from simple brass balls, threaded 8-32, to more elaborate brass turnings, also threaded. These can be used as nice terminations on metal tool handles or throttle levers or whatever.

While in the hardware store look around with an imaginative eye. The large size copper plumbing fittings could be used to make small scale boilers or alcohol lamps. The brass drain fittings can also be used to make many useful things; small tanks, boilers etc.

Check out the bathroom accessory area too. Some of the fancy towel racks are often made of moderately thick walled brass tube. I found that the 5d finishing nails take a very nice 1-72 thread. Try some other sizes too.

Don't overlook the gardening section. I found all kinds of useful plastic tubing and fittings that are used in making drip-feed watering systems. You can get tees and elbows for tube about 1/8 inch ID, and some nice little flow control valves (even electrically operated ones) too. I'm planning on putting together a simple, cutting oil dribble feed for my UNIMAT.

I don't know if you'll find it in your local hardware store, but if you need an insulating material for your boilers or to make an oven, small kiln, or maybe even a furnace for melting aluminum, check out a material called "Super Fire Temp". This stuff is apparently made for insulating grease ducts in commercial kitchens to fireproof them. It comes as a hard, white slab which can be cut with any wood saw. There is a high temperature adhesive for this material called "Pabco Super Calstick High Temperature Adhesive"

Keep turning -
Marv

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MASTER BUILDER -- M. M. "Mac" Muckley

by Jerry Reshew

This is the first of series of profiles about people who have been influential in the small scale live steam hobby by creating the models which we all enjoy. This series is a recognition of the debt that we all owe to builders who have pioneered design techniques and undertaken research projects to bring us all interesting and exciting live steam locomotives and rolling stock that will perform with ease and grace in our backyards, gardens, and wherever live steamers congregate. The series is to be published on a rather casual schedule, but our goal is to bring you into contact with a legendary builder in every other issue.

The medieval town of Warwick lies on the banks of the river Avon in the picturesque area of central England. It is here, in the shadow of Warwick castle, that Mac Muckley has always lived, raised a family of two daughters and is the proud grandfather of four (an even split of boys and girls). Mac developed a keen interest in rail-

road modelling from '00', 'N' and finescale '0' gauge while working as a municipal civil servant in the county of Warwick. He retired as a Principal Officer after serving the county for forty years and then had the sudden realization that his reduced income would require a slight change in his hobby habits. Mac decided that he had better do some model engineering!

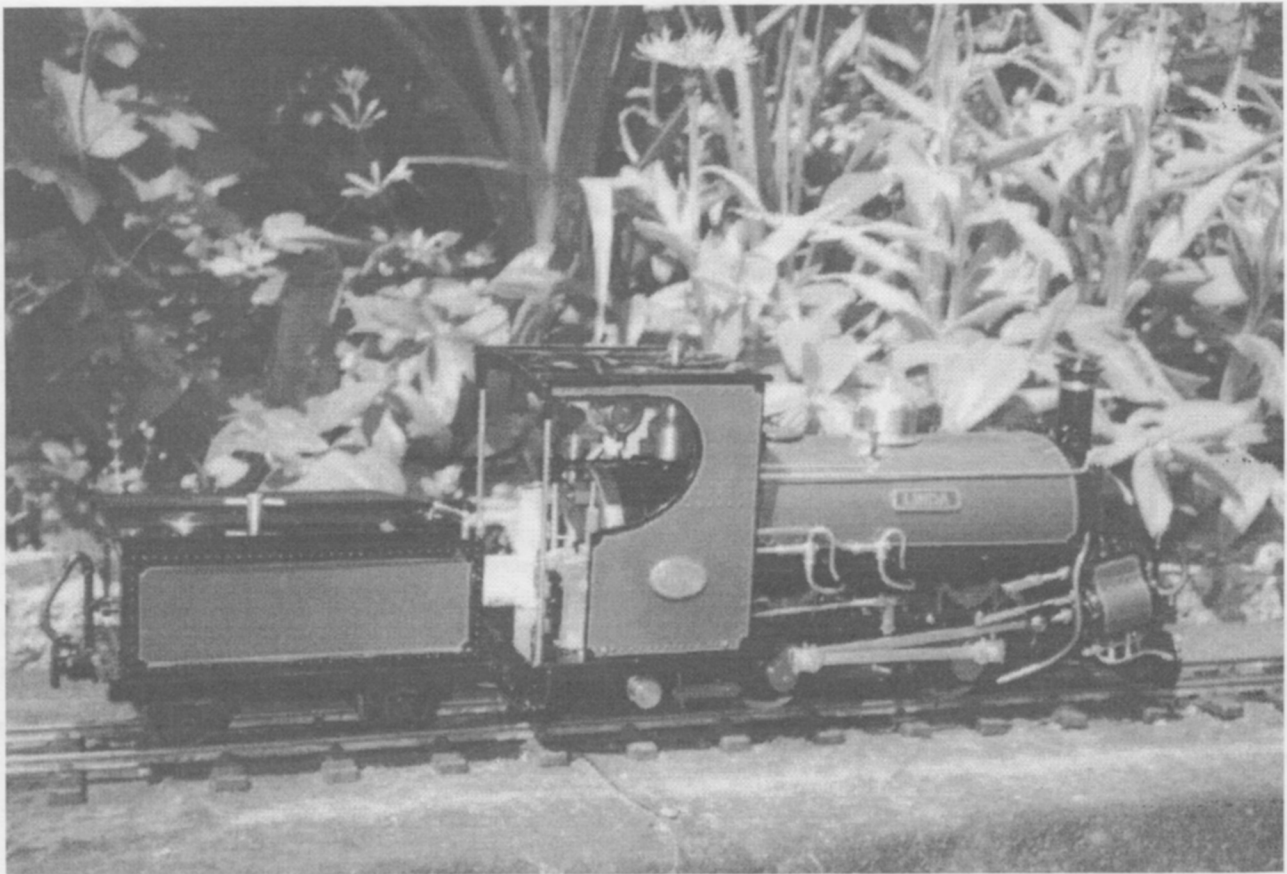
The timing was right. Mac discovered the Association of 16mm Narrow Gauge Modelers and decided to give it a go in the workshop. Equipment on hand was a Myford ML10 lathe, a drill press, a bandsaw and an early Mamod. The result was a radio controlled Glyn Valley Tramway locomotive.

Cutting one's teeth on conversions using the Mamod as a test bed is the common thread with the small scale live steam enthusiast, but at this point Mac started to leave most of us behind. The workshop grew with the addition of a Keighley toolroom lathe, vertical milling machine, power hacksaw, drop saw and power finishing wheels.

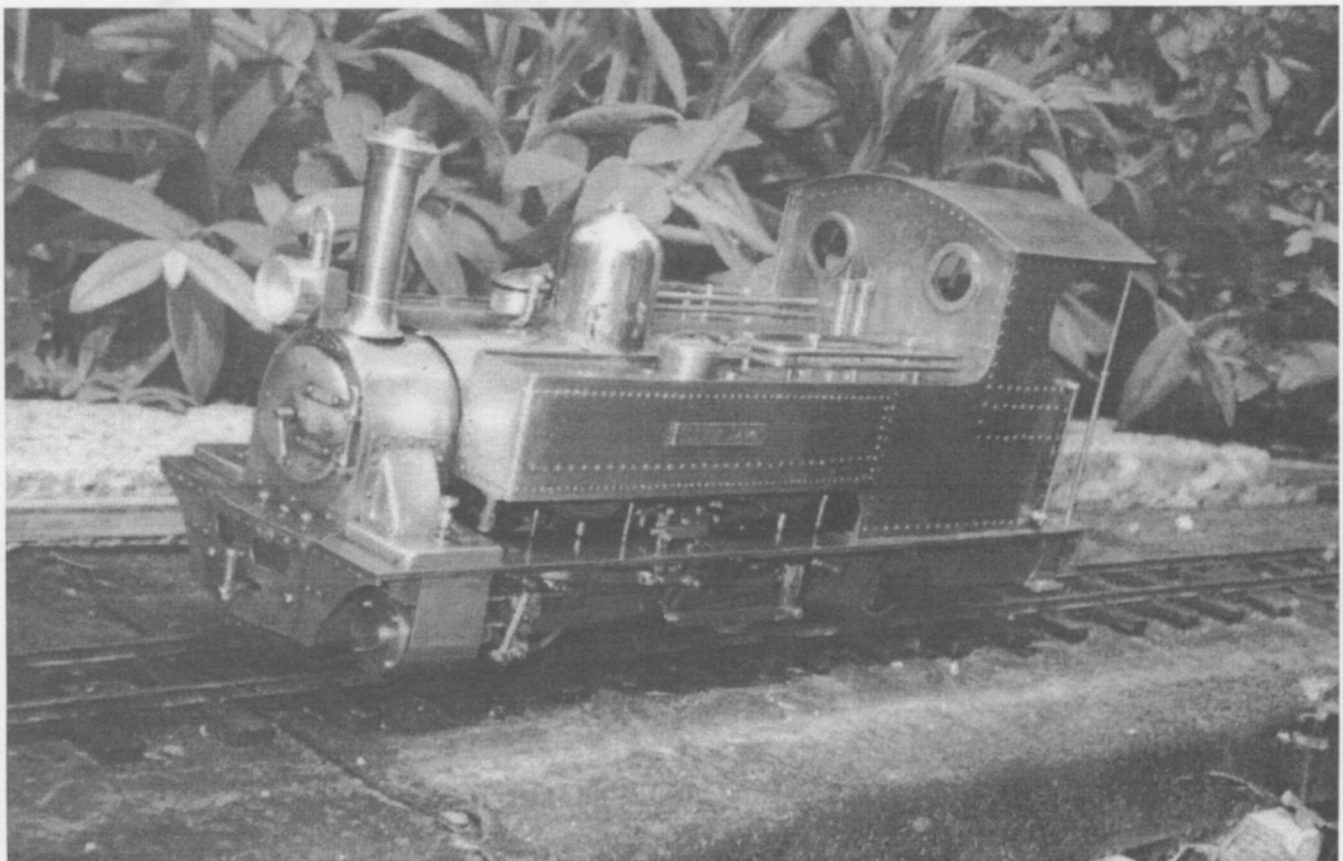
Following the Mamod conversion, he designed and built a



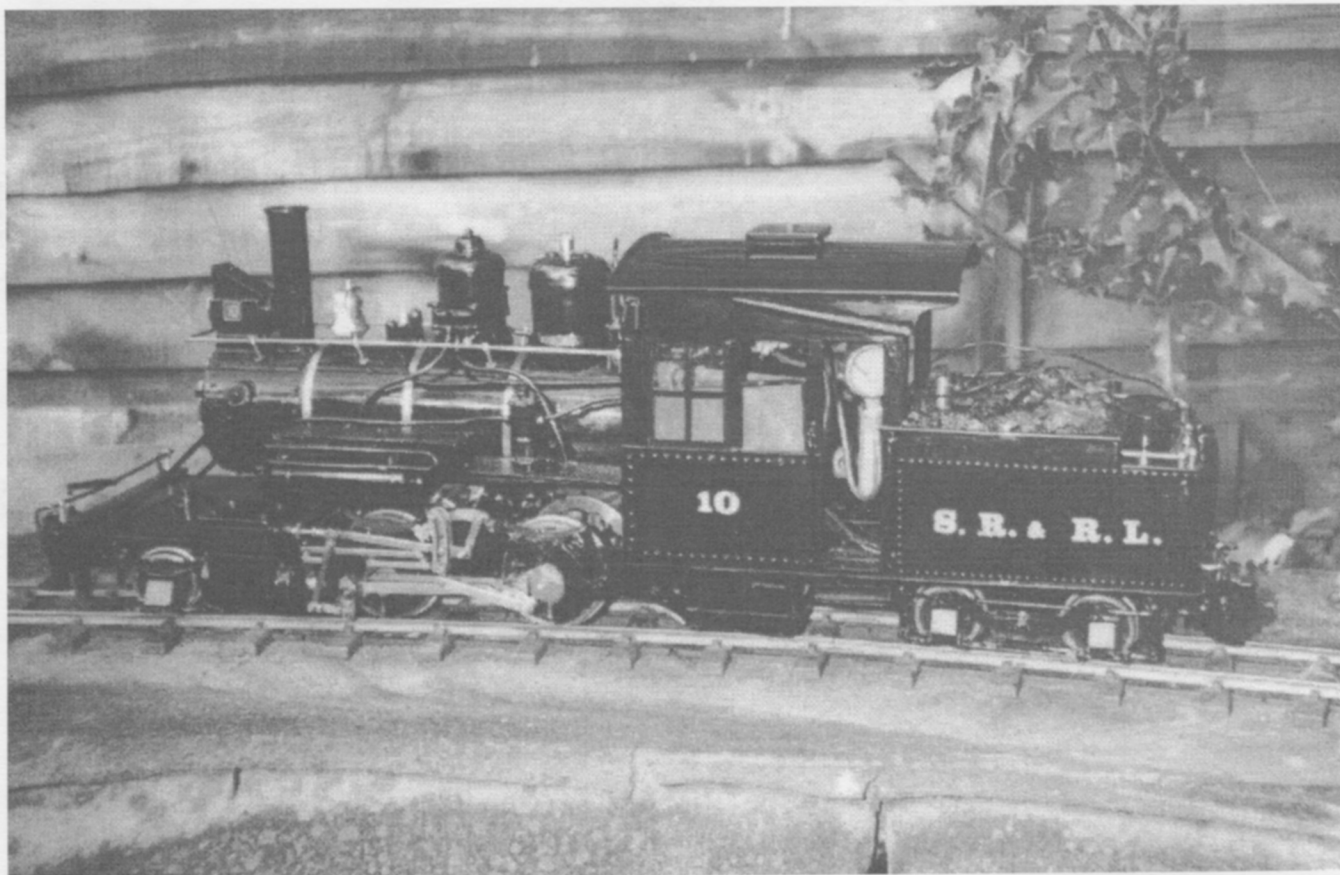
A justifiably proud Mac Muckley (on right) receives the MOTY award from Derek Tuckey, an officer of the Association of 16mm Narrow Gauge Modellers.



LINDA, one of the restored locomotives of the Festiniog Railway, reproduced in miniature by Mac Muckley.



A beautiful Tasmanian Government Railways "G" Class loco by Mac, shown here still in brass.



Sandy River Forney No. 10, a beautiful live steam model built by Mac and fitted with radio control.

Lynton and Barnstaple "TAW", a Leek and Manifold "J. B. Earle", and one of his masterworks, the Silver City, Pifiás Altos and Mogollon Railroad two truck Shay. The performance and craftsmanship of these models created demand from other modelers and Mac started to build locomotives on commission, which went on for a couple of years. This became a bit more than a retired public servant could handle and he decided to build only for his own enjoyment.

It was then that he designed and built the Cranmore Class 0-4-0 Peckett. The challenge was to build a scale model which was as small as practical, but which would pull a realistic load for about a half hour on one filling of vital fluids. A measure of his success is that the original model, now five years old and having steamed for hundreds of miles, recently pulled a consist of seventy-two fully loaded slate wagons at a recent 16mm Association event.

Mac built eight Pecketts and then gave the design to Tony Sant, who has produced the Peckett commercially for Finescale Engineering for the past five or so years. This engine appears regularly at steam events around the world. With some modification, the chassis is the basis for the Finescale Quarry Class Hunslet.

Mac has focused recently on the railways of Wales and has built models of "Dolgoch" and "Talyllyn", and of "Linda" and "Prince" of the Festiniog Railway. He also has done a few unique engines which are outside the Wales repertory in the last few years, such as an 0-12-0 and an Alco 2-6-2 WWI (you may have seen this at the National Gauge One Steamup). He is currently building a Fairlie double ended locomotive of the Festiniog design.

Mac's eclectic interests have also allowed him to produce a gas

fired and radio controlled Sandy River large Forney No. 10 and a 2-6-2 No. 16 is under construction. It seems that this activity would keep one fairly busy, but Mac also finds time to maintain a large portable layout, which is named Pont-ar-Fynach (Welsh for Devil's Bridge). He sets it up for the frequent events that the 16mm Association sponsors. Devil's Bridge really exists, being the terminus of the Vale of Rheidol railway in Wales. Mac and Mrs. Muckley are inveterate travelers and take frequent trips to France, the Mediterranean, the Alps, and also to the Spanish and Portuguese islands. He is a gardener and an ardent do-it-yourselfer around the house.

In recognition of Mac Muckley's small scale model engineering proficiency, the Association of 16mm Narrow Gauge Modelers named him Modeler of the Year in 1984. The entry in this most prestigious of competitions was a radio controlled Lynton and Barnstaple "TAW". This model is run regularly at 16mm events in the U.K. and always elicits great admiration for the builder.

We all use excuses about not having enough time to really do something creative in this wonderful world of small scale live steam. Maybe we should look to Mac Muckley for inspiration.



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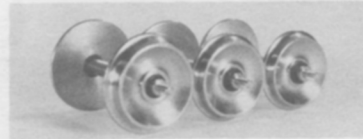
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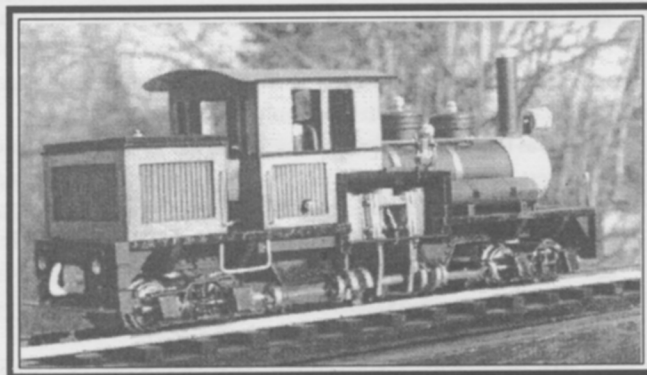
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Steamin' at Diamondhead, 1994

by Ron Brown

Though 1994 was only the second time this event has been held, it has already become the premier event on the North American small-scale live steam community's activities calendar. Jerry Reshew wanted to get together with fellow live steam enthusiasts to do what we like to do best...boil some water and run trains! Jerry has done exactly what he set out to do and more, and he's done a remarkable job of it by organizing and promoting the National Gauge One Steamup, held in mid-January at the Diamondhead Days Inn Convention Center in Diamondhead, Mississippi.

This year's event was attended by nearly 100 registered live steam enthusiasts, and probably close to that many others that were there to watch, ask questions and see what this live steam business is all about. I'd be willing to wager that many of those that "just came for a look" went away as converts to small-scale live steam.

In addition to nearly 'round the clock steaming, this year's event included seminars on a variety of topics by Marc Horovitz, Harry Wade, John Weiland, Chip Rosenblum, Barry Harper and Ron Brown, plus a luncheon, raffle, freebies, and lots more. The dealer room was intentionally not open at all times, which gave the dealers plenty of opportunities to run their own steamers, or just socialize and watch the wide variety of small-scale live steam that occupied the tracks throughout this 3-day event.

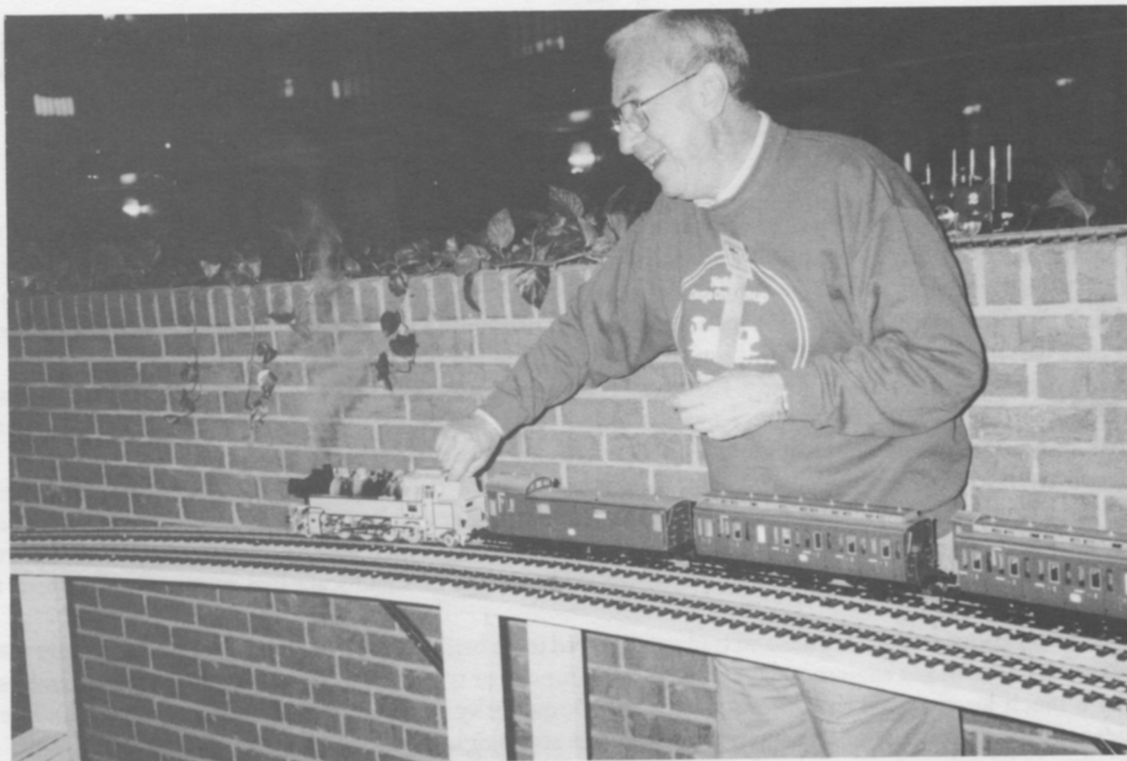
When the dealer room was open, sales and trading appeared to be brisk, and all the dealers we spoke to were well pleased. Several privateers also brought engines, parts and accessories for sale or trade, and I know that quite a few attendees staggered home under a much heavier load than they arrived with! Some lucky steamers picked up on once-in-a-lifetime bargains, which proves the old cliché about "...being in the right place at the right time..."

Diamondhead was definitely the right place, and it was surely the right time for those of us from the frozen north, as we were able to escape the subzero temperatures, snow, ice and all those other nasty things that get in the way of enjoying our hobby for too many months of the year.

To tell the whole story of this 2nd annual event would take this whole magazine and more, but we'll try to give you a taste of it with this photo report. The most important thing I can say about Diamondhead is this: If you love small-scale live steam; if you enjoy getting together with other steam lovers to see what's new and exciting; if you want to look over a dealer room that looks like a steam lover's candy store (the scene in the dealer room this year looked like a feeding frenzy in the shark tank); start making plans now to attend The 3rd Annual National Gauge One Steamup in Diamondhead, Mississippi in mid-January, 1995. Contact Jerry Reshew, 5411 Diamondhead Drive East, Diamondhead, MS 39520 - 601-255-1747, for more information. Whatever you do.....don't miss this one!



An overview of the steaming area in the atrium from the 2nd floor balcony. The large outer oval boasts a gauge 1 double-track mainline, complete with steamup tracks and train storage tracks on both sides. The smaller inner oval has two loops of dual-gauge track, and was provided specifically for the smaller, slower gauge 1 trains and all gauge 0 trains. The small loop on the floor is for those that want their train to haul them around with it. Worktables for servicing and repairing were available along two sides, which worked out very well. Distilled water, fuel and oil were provided for all by the host and some generous sponsors.



Jerry Reshew (Louisiana), organizer of the National Gauge One Steamup, takes a turn on the outer loop of the double-track mainline with his Aster BR 86 in "Dr. Zhivago" paint scheme. It's easy to see that Jerry really loves this hobby and derives a great deal of enjoyment from running steam engines and associating with fellow live steam enthusiasts.

Photo by Carol Jobusch



Members of the 16mm Narrow Gauge Association, a UK-based organization for devotees of 2-foot narrow gauge on gauge 0 track. Left to right: Ron Brown (New York), John Nichols (Maryland), Marc Horovitz (Colorado), Wayne Slaughter (New Hampshire), Mel Ridley (England), Chip Rosenblum (Ohio), Ken Matticks (Texas), Dan Fuller (Texas) and Erv Mueller (Illinois).

Photo by Carol Jobusch



Left: Always affable Mel Ridley, all the way from England, explains some of the finer points of engineering on his very well done pilot model of a small 2-truck Climax to Wayne Slaughter (New Hampshire) and John Nichols (Maryland). Other locomotives on the table include two Maxwell Hemmens Porters and an Aster Allison Shay.

Photo by Carol Jobusch

Right: Marc Horovitz prepares his coal fired loco, CEYLON, for a run. This was the only coal-fired loco on the premises that I know of, and it attracted a lot of interest and attention while putting on a splendid show. Coal-fired locomotives have a reputation for being a real challenge to keep lit and keep running, but Marc and CEYLON made it look easy. Is there a coal-fired locomotive in your future?

Photo by Carol Jobusch

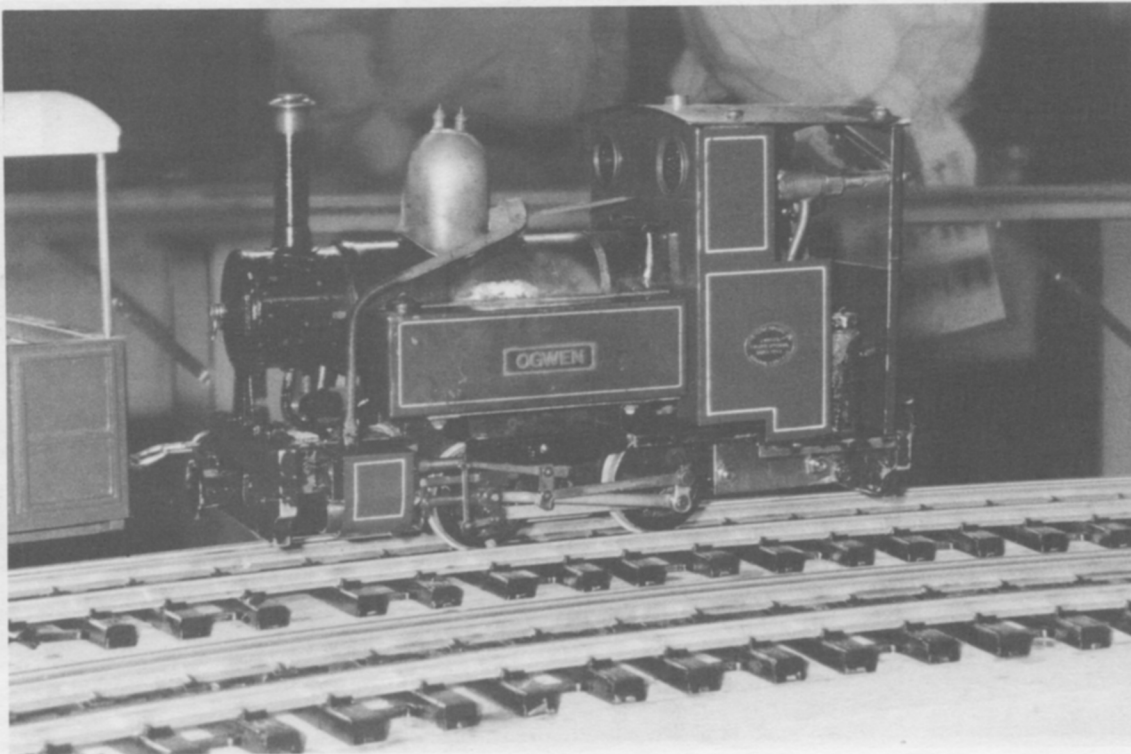




Top: Leslie Hall (Maryland) and Scott McDonald (Virginia) share a laugh while examining Ron Brown's newly acquired Aster Ali-San Shay. Leslie and Scott were part of a group that took Amtrak's Crescent Limited to New Orleans, just 45 minutes south of Diamondhead. Forget all the horror stories you've heard about Amtrak – we had a ball. The coaches and sleepers are comfortable, the food is great and the service is outstanding. We arrived at Diamondhead relaxed and ready to go, rather than the zombies we would have been had we driven. Given a choice between flying, driving or taking the train – we'll take Amtrak any time!

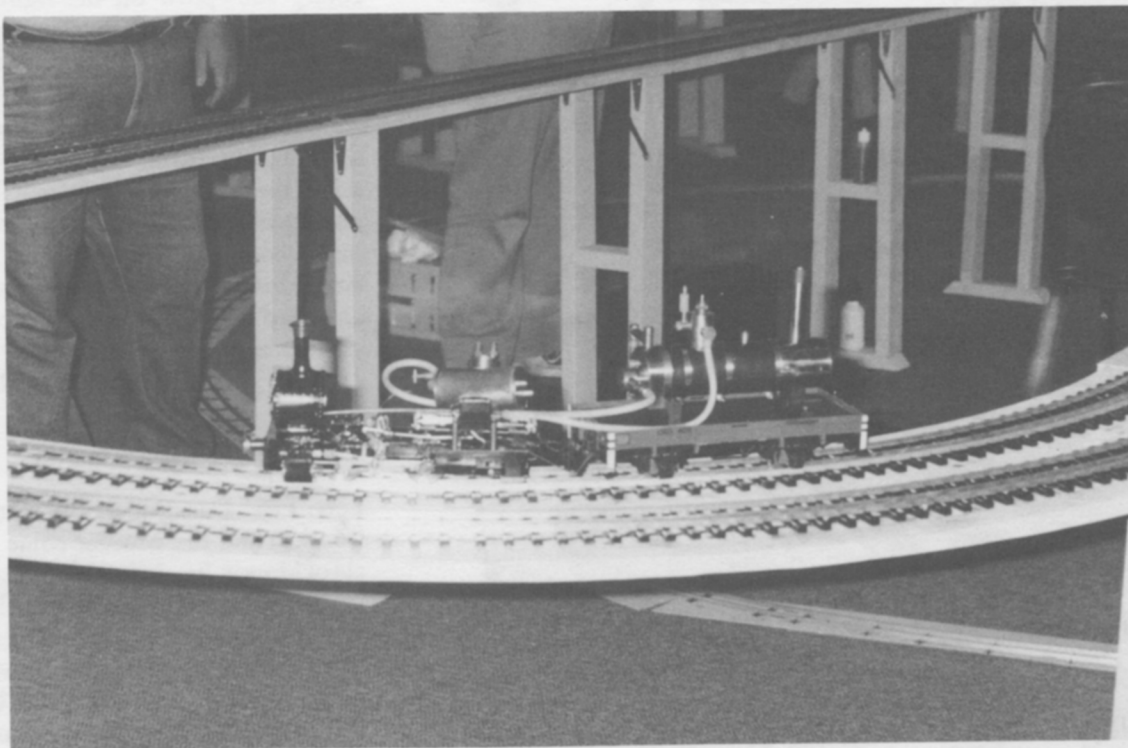


Bottom: Scott McDonald, Peter Jobusch and Chris Hall demonstrate the classic "Hear No Evil, See No Evil, Speak No Evil" routine on the Amtrak dining car enroute to a treatment center for live steam addicts near New Orleans. All three of these fine fellows are members of the Washington, Virginia & Maryland Garden Railway Society – and all have been bitten by the live steam bug, which is extremely contagious.

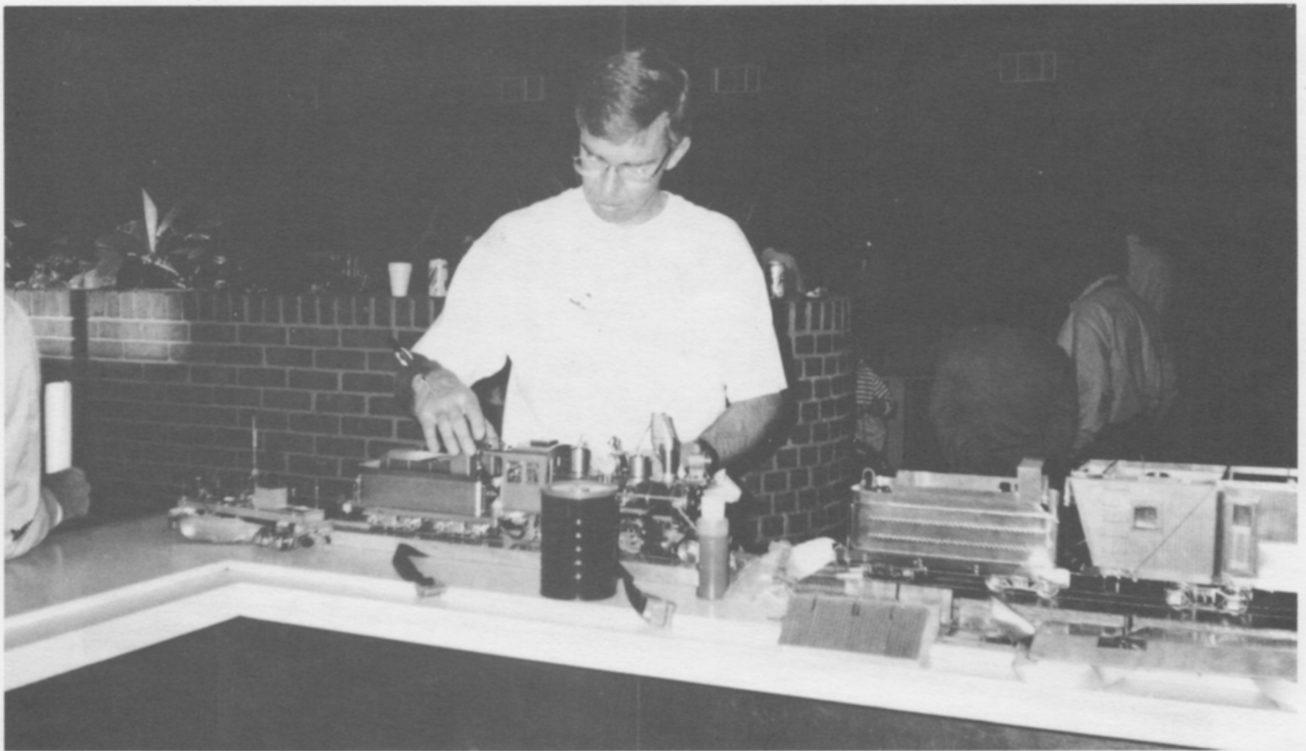


Top: A Roger Marsh Ogwen, now built and sold by Maxwell Hemmens, takes a coach full of tourists for a turn. Though fewer in number than the gauge 1 contingent, the gauge 0 group was certainly no less active, keeping the narrow rails warm throughout the 3 day event. Steam buffs are an enthusiastic lot, and we saw activity on the tracks as early as 6:00 am and as late as 12:00 midnight.

Photo by Carol Jobusch



Bottom: This unusual looking lashup was put together by Charlie Mynhier to demonstrate the fuel tank, boiler and burner designed by him and currently running as a construction series in SitG. As seen here, it consists of a Roundhouse chassis with Charlie's fuel tank perched about where the engineer would normally sit, followed by the boiler and burner assembly on a 4-wheel wagon. It may have looked strange, but it performed perfectly and whetted the interest of quite a few onlookers in the construction series.



Top: Jim Hadden (Utah) prepares his Aster C&S Mogul for a run. Jim's Mogul is unique, in that it is gold plated. That's Jim's scratch-built steam-powered rotary snowplow on the right. This beauty will be the subject of an article in an upcoming issue. Although there was no snow to plow at Diamondhead (thank goodness!), Jim's rotary plow was a real show-stopper. Barely visible at the far left side of the photo is a scratch-built flanger, also by Jim. It's too bad there wasn't a model contest at Diamondhead, as Jim would have easily walked away with an armload of trophies. Excellent craftsmanship!

Photo by Jim Hadden



Left: Fire! Dan Fuller, Bob Simpson (Florida) and Erv Mueller come to the aid of Morgan Jennings (Colorado – right front in photo) as her Aster Mogul leaves a trail of flaming alcohol. A dramatic example of why there should always be plenty of wet towels and spray bottles filled with water at a steamup! Check out Morgan's letter in the RPO section of the March/April '94 issue for more details on this fiery incident.

Photo by Carol Jobusch



Top: Ken Matticks (right) of Doubleheader Productions presents Mel Ridley with the prize for longest distance traveled. Mel beat out Tom Cooper by just a few miles! Ian Pearse of Pearse Locomotives donated a fine looking coach for this prize.

Photo by Carol Jobusch

Right: Dan Rowe (Texas) keeps a close eye on his beautiful Aster SP Daylight. This has got to be one of the finest looking locomotives (and trains) ever built! Dan had some problems with his engine at first, but thanks to help provided by fellow live steamer John Weiland of Aster Hobby West, it was soon purring along like a Swiss watch. Steam people are the most generous and helpful bunch I've ever had the pleasure of associating with.

Photo by Carol Jobusch



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R/C Tips & Hints

by Ron

We've seen increased interest lately in adding more and more radio controlled functions to small-scale live steam locomotives. Remote control of speed and direction are standard items these days, but as we become more sophisticated in our hobby, those that are on the leading edge are seeking control of such exotic items as blower, fuel, water pump, lighting, coupling & uncoupling, and more. It seems that the only limits now are our own imaginations!

Since we must comply with FCC regulations and use only equipment on ground-based frequencies (27mhz & 75mhz bands), and since equipment on those frequencies has been limited in most cases to 2 channels -- there hasn't been much choice for those looking for more.

Recent research by us on behalf of a friend led us to the discovery that Futaba now offers two more options that should take care of the needs of the most demanding live steamer. A 4-channel system and a 7-channel system, both available on 75mhz.

The 4NL and 7NFK are both complete systems, and include servos, nicad batteries & charger for both Tx and Rx, and switch harness. Most of us will probably want to swap the standard size servos for the micro sized S133, otherwise these systems both offer all the features we could ask for -- short of an R/C system designed specifically for use in small-scale live steam locos.

One final tip for those considering the purchase of an R/C system, or even a receiver or a servo or two. If you don't know what you're doing, shop around before you buy. As with many other consumer electronic items, you should never pay list price. The systems mentioned above, for example, are selling for \$110 and \$240 at a local Futaba dealer, though list price is much, much higher.

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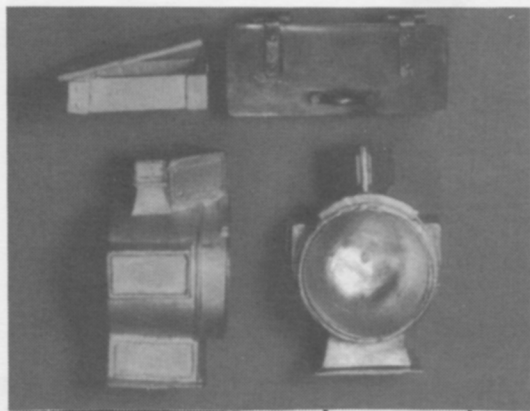


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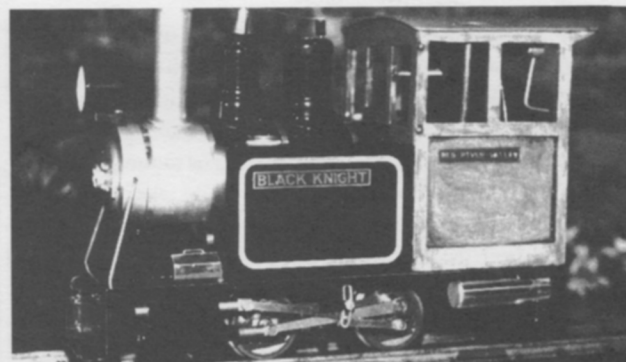
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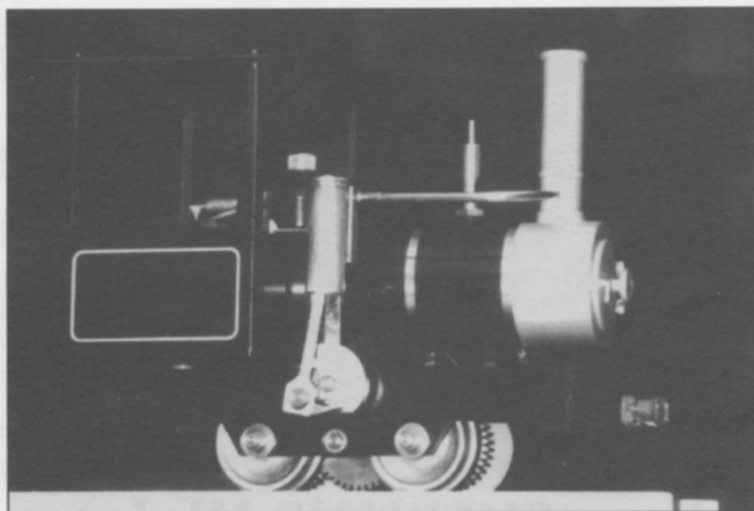


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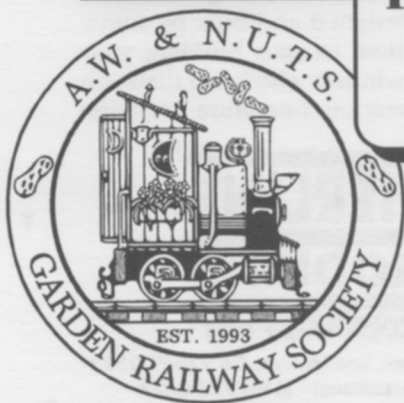
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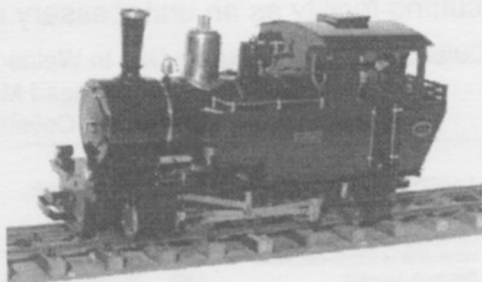
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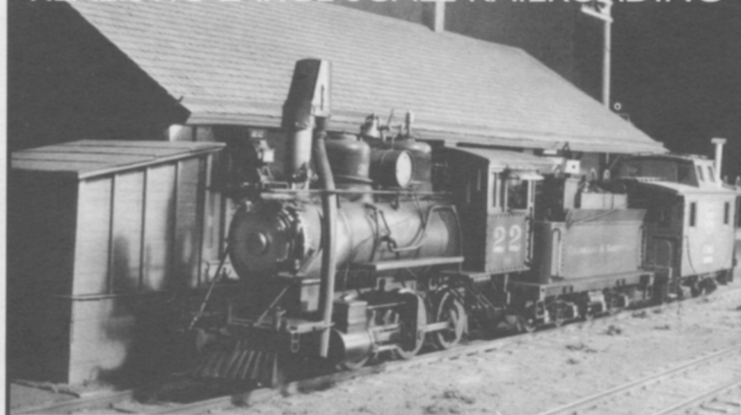
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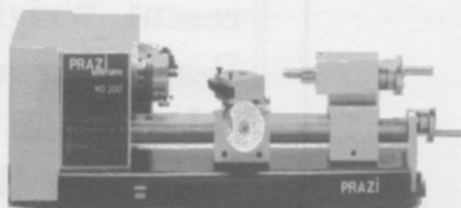
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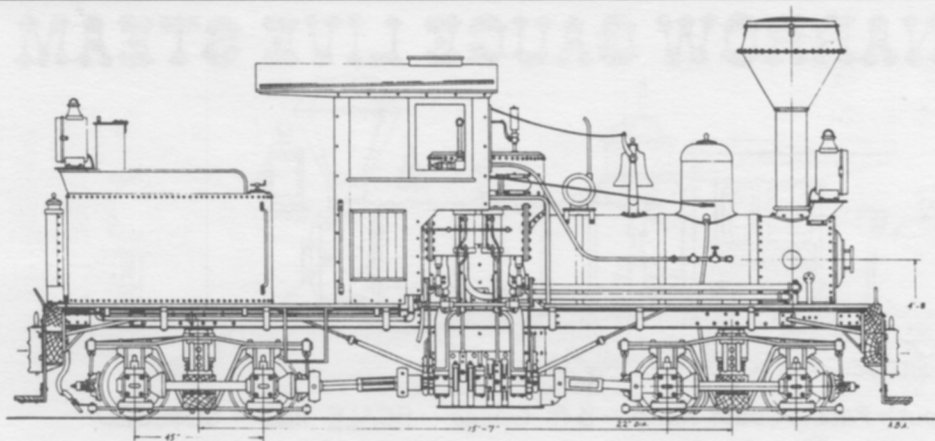
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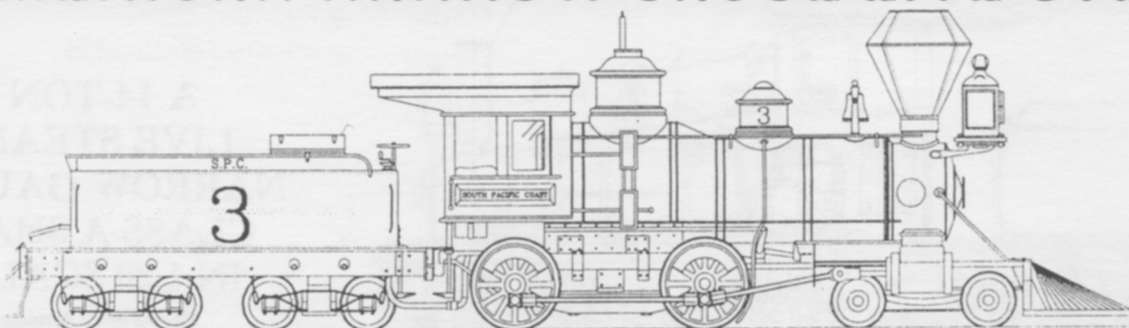
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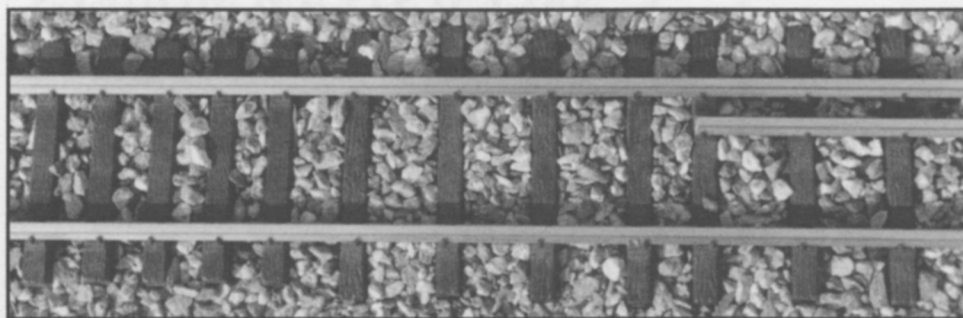
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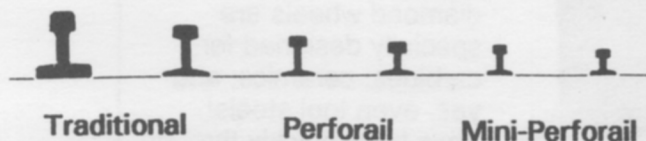
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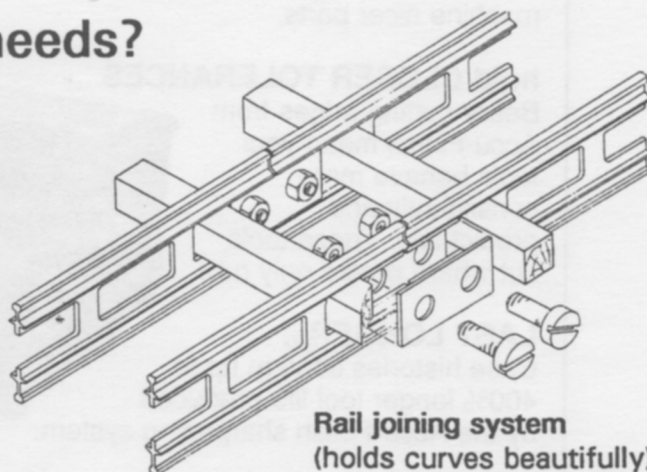
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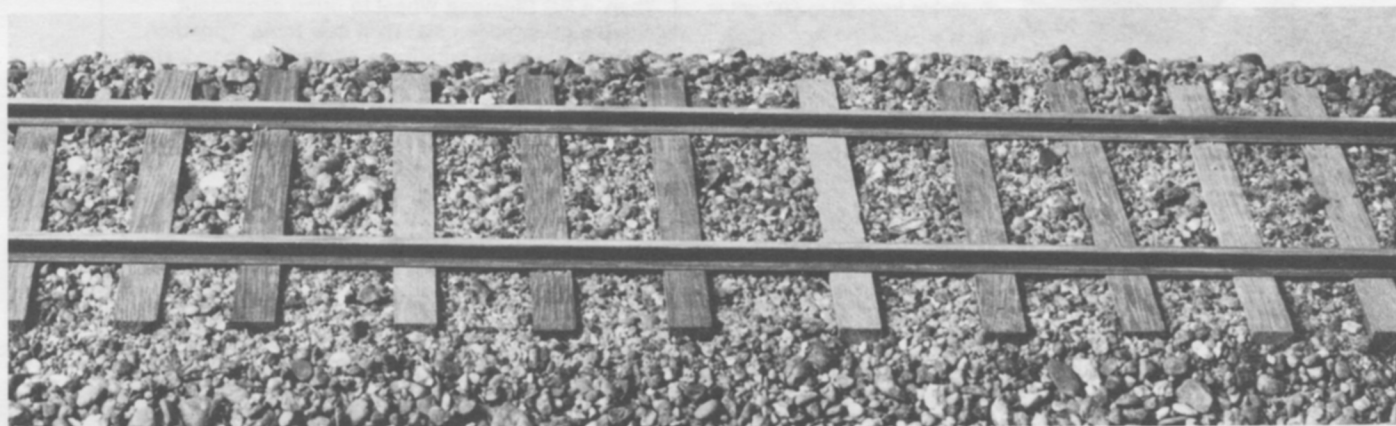
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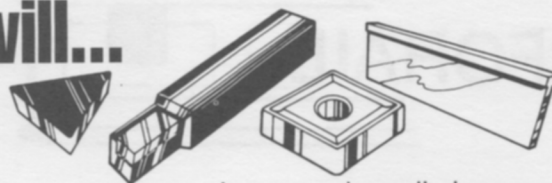
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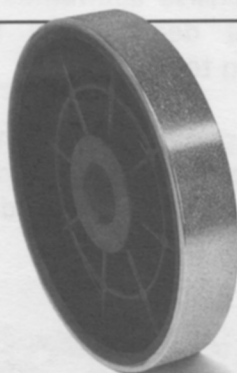
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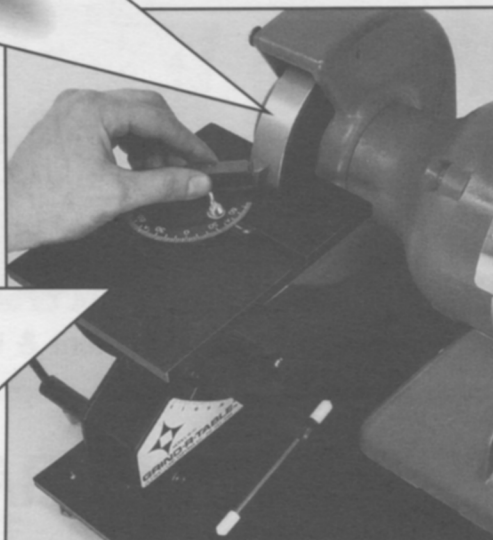


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Fixes

for Sickly Dragons

Sometimes gas burners aren't as quiet as we'd like them to be, and in the worst cases they emit howls and shrieks that can be downright embarrassing. Another problem with gas burners, especially in the smaller size locomotives, is that it can be difficult to persuade the flame to stabilize on the burner, rather than burning in the smokebox, stack, etc.

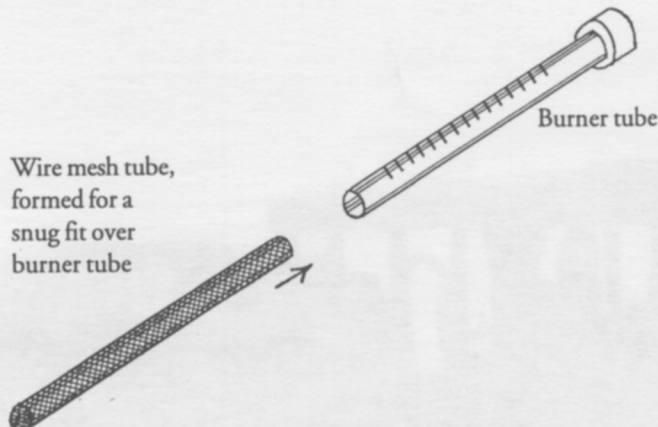
To solve both problems, use a piece of wire screen, mesh or gauze to make a tube as shown in the drawing. Stainless steel wire will last longest, but other materials, such as brass, can also be used.

The screen should be long enough to cover the burner slots, and the width should be about the circumference of the tube, though this isn't critical.

Form the screen into a tube on a rod slightly smaller in diameter than the burner itself. This will hold the tube on the burner by spring tension. Slide the tube into place on the burner with the seam on the bottom.

In most cases it will be easiest to remove the burner from the boiler to install the tube. If you do, be sure to reinstall the burner with the slots (or holes) pointing up.

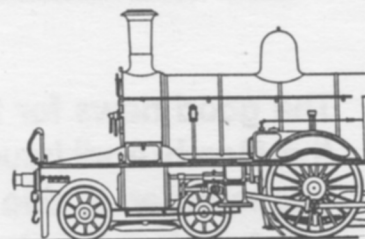
*Submitted by Chris Hall
Drawn by Charlotte Reshew*



Stainless steel wire cloth is available from Small Parts Inc., P.O. Box 4650, Miami Lakes, FL 33014-0650. Phone 305-557-8222 or Fax 1-800-423-9009. A piece large enough to do a burner is less than \$3.00. Ask for a copy of their catalog, it's filled with lots of really useful stuff. Ed.

Send in your tips, hints & fixes to SitG, Dept. FIX, P.O. Box 335, Newark Valley, NY 13811. All published submissions will earn the submitter a one-copy extension on their subscription.

The Willow Works



P.O. Box 150581 Nashville TN 37215 615-373-5829

Replacement Boilers for Aster Locomotives:

Do you have a sickly Aster GER/Oest/Etat 0-6-0? We are presently setting up to make a limited run of replacement boilers for these locomotives for delivery in May or June. The quantity made will be determined by reservation and will be silver soldered copper to our usual high standard. They will be exact replacements for the original soft soldered boiler, and a pressure gauge option will be offered. Reservations are now being taken. Send a #10 SAE for more detailed information and pricing.

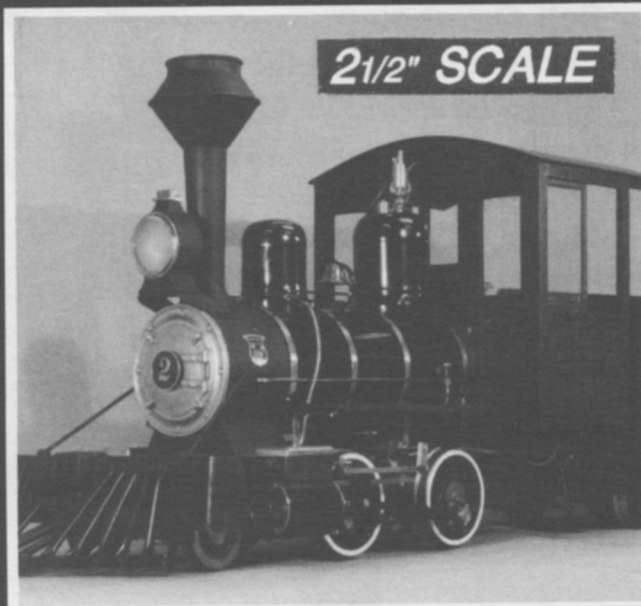
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THE PORTERS

The good news for the customer is that our Agents have Porters (as reviewed in the March/April issue of SitG) in stock, ready for shipment on receipt of your telephone order. If, due to an overwhelming response, the unforeseen happens and our Agents run out of stock, we have more stock on hand in England which can be shipped immediately to our agents.

We are receiving a great response from customers who have bought the 1994 New Model Porter, saying that not only is the quality first class, it steams and steams and steams along.

The radio controlled whistle works very well, and is now fitted to the engine as standard equipment. It's great fun to whistle your arrivals and departures -- and even grade crossings if you have them!

The price of the Porter is \$1675.00 delivered to your door, excluding local taxes.

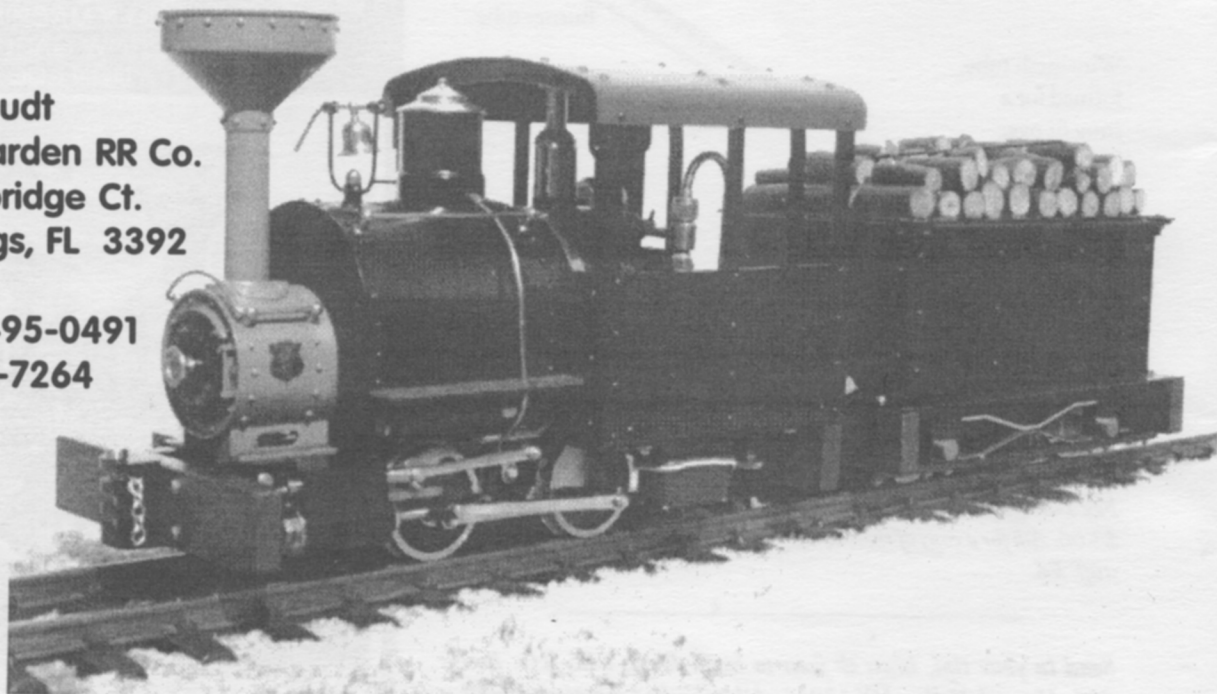
OGWEN is now available in Gauge 1 -- \$1485.00 delivered to your door, excluding local taxes.

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Phone 813-495-0491
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Photo by
Bob Osterhoudt

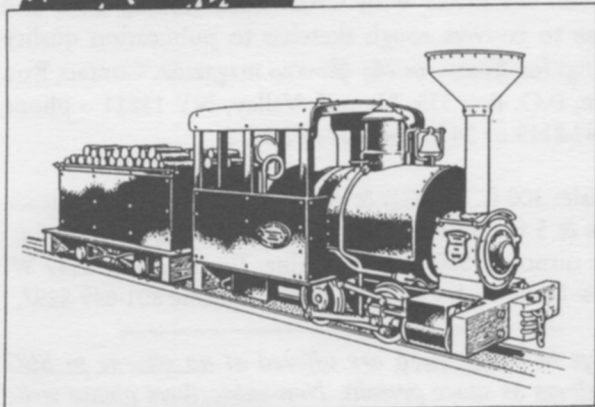


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One of a vast range of live steam locos available from Brandbright, the new Maxwell Hemmens Porter represents real value. The loco has plenty of power, is tough and reliable and manufactured to a remarkable quality.

The Brandbright/Railway Garden Ltd of California partnership is designed to give the best prices and service, calling on the World's largest stockholding of 16mm scale items. Situated in the U.K. and distributed as professionals. Our combined experience in steam power reflects in advising the best loco to suit your needs. Our range includes Roundhouse, Finescale, Mike Chaney, Maxwell Hemmens, Wrightscale, Pearse, American Steam Locomotive Co, Shawe and, of course, Brandbright Specials - that's just the live steam locos! - There is a whole lot more.

To make sure you have the latest 80 page Catalogue, send \$4 to the U.S. address below:-

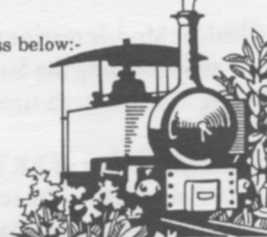
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Sold! RGL has a new owner! Still the same great service, pricing and selection for all your steaming needs with items from Brandbright, Argyle and Narrow Gauge Australia. New location and RGL catalog coming soon. Watch this space for more info!

With acclaimed service, best pricing and honest, non-biased selection, we offer more than any other supplier. Why would you go anywhere else?

The new Maxwell Hemmens Porter is in stock and available! We consider it to be an excellent value - our pick of the year. RGL also has locos from Argyle, Butler County and Berkely Loco Works, making our large selection even larger. RGL believes in supporting Steam in the Garden (both the magazine and the hobby!), and we invite you to compare our selection and our prices.

SWAP SHOP

Wanted: J & M Pennsy cars, "EDGAR ALLAN POE" lined livery. J. Hyde, 89060 New Rumley Road, Jewett, OH 43986. Phone 614-946-6611.

For Sale: Stuart Turner marine/stationary steam engine and boiler. Model 10V vertical single cylinder, \$200. Engine professionally built, mint condition, air tested only. New in box Stuart reversing gear kit for this engine available, \$35. Also new in box Stuart water feed pump kit, built to fit Stuart D10 or 10V engine, \$50. Stuart Turner #504 boiler with dual alcohol burner, in nearly new condition, \$300. All of the above, \$500 and I'll pay the shipping. Call 607-642-8119 before 10 pm eastern time, ask for Ron.

For Sale: Cheddar Models marine vertical boiler. Will handle engines up to and including the Stuart Turner D10. Call 607-642-8119 before 10pm eastern time, ask for Ron.

For Sale: Limited number of ERTL 2-ton metal Caterpillar tractors in 1:16 scale. Change the seat and they look "right" in 1:20, 1:22.5 or 1:24! Very nice quality. Makes a fine looking flatcar load or interesting detail for a logging, construction or mining scene on your railway. While they last, just \$32.50 ea. plus \$2.50 shipping. Contact Ron Brown, P.O. Box 335, Newark Valley, NY 13811 - phone 607-642-8119 before 10 pm eastern time.

For Sale: 70 ft. of used Atlas gauge 0, nickel-silver flextrack and four switches. \$75.00 includes shipping. Jack Brosch, 165 Glacier Circle, Vacaville, CA 95687 - 707-446-0124.

For Sale: Brandbright "COFFEE POT" - gas-fired, dual-gauge, vertical boiler with pressure gauge and water sight glass. #19 of 30. \$450 - runs very well, but needs paint. Trade considered. Contact Samuel 805-927-1194 (fax/phone).

For Sale: Archangel/Cuckoo's Nest Loco Works "KATIE" - gauge 0, spirit-fired, blue. #8 of 50. Runs like a treat, \$350. Trade considered. Contact Samuel 805-917-1194 (fax/phone).

For Sale: Steamlines Shay - R/C, gauge 1, gas-fired. Runs very well! Mint condition with super steamup stand and carrying case. \$1850. Contact Samuel 805-927-1194 (fax/phone).

For Sale: Merlin Mustang - US styled 0-6-0 with tender (plastic), R/C, gas-fired, gauge 1, whistle. Red cab w/black boiler - cute! \$1200 includes case and steamup stand. Contact Samuel 805-927-1194 (fax/phone).

Wanted: A copy of *Steam in the Garden* magazine, issue #15 (March/April 1993). Contact John Spencer, P.O. Box 211, Elbridge, NY 13060-0211.

Wanted: Volunteers with CAD skills seeking fame and fortune to convert rough sketches to publication quality drawings for *Steam in the Garden* magazine. Contact Ron Brown, P.O. Box 335, Newark Valley, NY 13811 - phone 607-642-8119 or 24 hr. fax 607-642-8978.

For Sale: 300 ft. of LGB & Aristo code 332 sectional track with 4 & 5 ft. radius curves, straight sections, and two 5 ft. radius turnouts. \$800 plus shipping. Jim Hadden, 1449 W. Willow Lane, Park City, UT 84060 - phone 801-649-8297.

Listings in Swap Shop are offered at no charge to SitG subscribers as space permits. Non-subscribers please write for rates. Send a letter, card or FAX containing your ad, clearly printed or typewritten (no phone-in ads, please!), to SitG, P.O. Box 335, Newark Valley NY 13811. Ads must contain sellers name and address - phone number recommended. Please keep your listings to a reasonable length. Non-commercial ads only, please.

British Prototype Kits by

Tennille Products

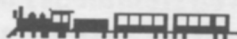


Shell/BP Tank Wagon & Great Western Cattle Wagon, 10mm (3/8") Scale, Gauge 1 (two of eighteen goods wagon types available)



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1994 Calendar of Events

May 20, 21 & 22 -- Steamup on the Mountain View & Western, 7 Abbott Rd., Wayne, NJ 07470 -- phone 201-696-3747. See photo report in this issue for a look at this beautiful, 185' dual-track mainline, elevated running track. Meths and distilled water provided. 10mm & 16mm types equally welcome. Please RSVP!

May 28-29 -- Pennsylvania Live Steamers Memorial Day Steamup. Rt. 29, 1 mile north of Rt. 113, Rahns, Pennsylvania. Elevated gauge 1 double track mainline, with steaming bay, turntable and 3 track storage yard will be in operation. Also available, ground level tracks for 1/2", 3/4", 1" and 1-1/2" scale trains. Bring your engines! Food is available on site, with lodging nearby. For more info, contact Harry & Paul Quirk, P.O. Box 215, Springtown, PA 18081 -- phone 610-346-8073.

June 5 -- STEAMBOATS ONLY, a Radio Controlled Model Steamboat Meet at Meadowland Park Pond, off South Or-

ange Ave., South Orange, New Jersey. Registration begins at 9:00 am, first boat in the water at 10:00 am. For information contact: Ron Hermann, 201-891-3020 or Charles Roth, 908-638-8341.

August 27 -- 6th Annual Steamup and Open House on Ron & Marie Brown's Silo Falls Scenic Railway in Newark Valley, New York. Ground level gauge 1 garden railway with moderate grades. For more info, send a SASE to P.O. Box 335, Newark Valley, NY 13811, or call 607-642-8119. Please RSVP early!

September 16-18 -- Second Annual Indiana Transportation Museum small scale steamup will be held on the museum grounds in Noblesville, Indiana, a suburb of Indianapolis. Five elevated 380 foot loops plus steaming tracks and storage tracks will be operating. Water and fuel will be provided. For further information contact: John W. Bloxdorf, M.D., 2540 North Ninth Street, Terre Haute, IN 47804. Phone 812-466-1007.

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

Jim Wilson of Miniature Steam Railways in Texas passed away suddenly on March 12th. His good friend and partner, Terry Shirley, tells us that MSR will be shut down pending a decision on whether to continue in business or not. Our condolences to Jim's family, to his business associates and to his many friends throughout the small-scale live steam community.

Due to health problems, Mike Decker at Decker's Trains is no longer able to continue in business and has suspended operations effective immediately.

END OF THE LINE

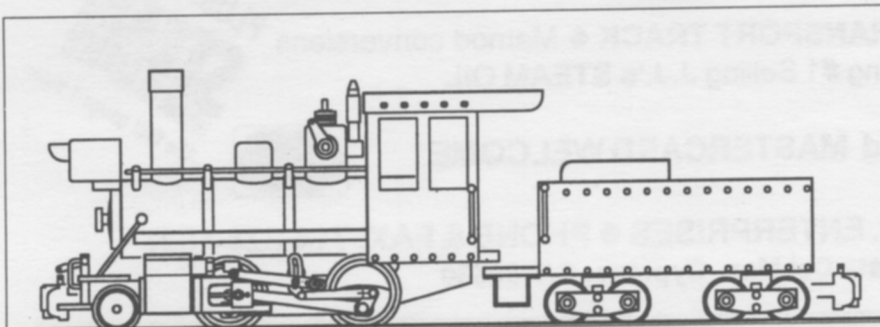
In the last issue we began a series by Charlie Mynhier on building a generic 2-4-0 live steam locomotive (see line drawing at bottom of this page) designed by Charlie. We had hoped to be able to present a new article in this continuing series in each issue, but due to a shortage of volunteers willing to convert rough drawings and sketches to publication quality drawings, we were not able to bring the second part of the series to you in this issue. Charlie is working on the articles and drawings just as fast as he can, but he has a life outside of SitG and can only spare so much time to the project.

We have discussed the situation with Charlie, and we both agree that it would be better to publish this series in every other issue -- and do it right -- than to rush into print with drawings that are not up to the standard of quality that we want to establish and maintain.

We hope that the line drawing below will sharpen your interest, and that you will be looking forward to more of this kind of D-I-Y project article.

In the meantime, if there are any of you SitG readers out there who have the necessary skills and access to a CAD system -- and if you would be willing to volunteer your services to help our over-worked Graphics Editor (Harry Wade) with drawings for various articles, construction projects, etc. -- please contact us by letter, phone or FAX. We really need your help!

To those of you that responded to our plea in the last issue for quality photos, we thank you. Several individuals wrote or called to say that they would make an extra effort to get some outstanding shots to share with all of us, and we look forward to seeing the results of their efforts.



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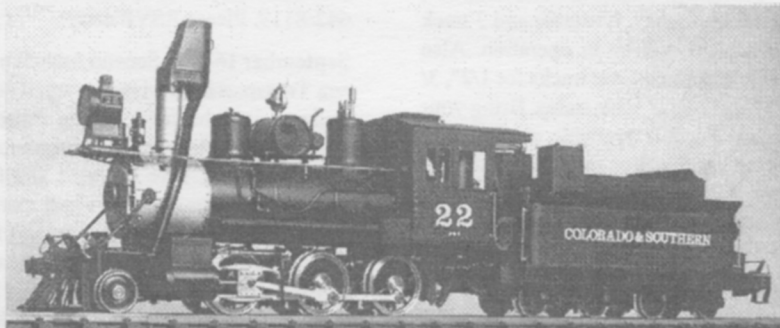
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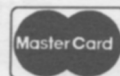
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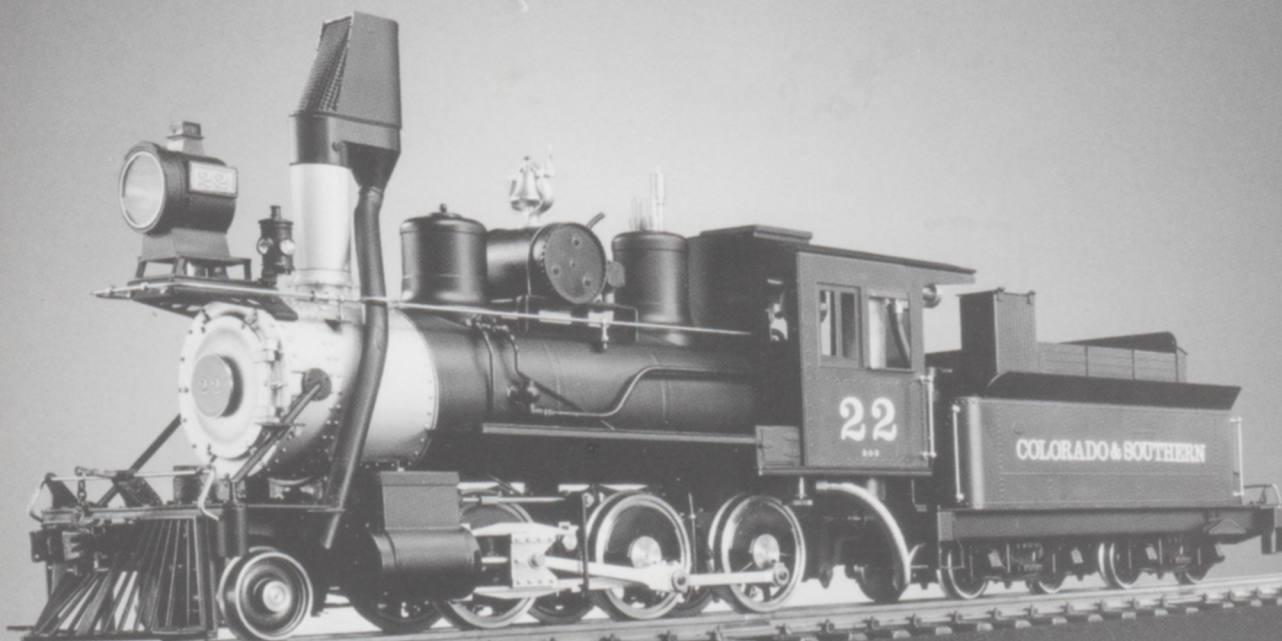
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Scale/Gauge	: 1/22.5, No. 1 Gauge (45 mm)	Minimum radius	: 2 meter	Fittings	: Two Safety Valves (one in dome & one in cab), Pressure Gauge, Water Gauge, Blowdown Valve, Throttle Valve, Auxiliary Gas Reservoir & Gas Burner
Total Weight	: 5.8 kg (Engine 3.65 kg + Tender 2.15 kg)	Engine Cylinders	: 2 Cylinders, Bore 12 mm x Stroke 18 mm	Lubricator	: Roscoe Displacement type mounted on front deck
Length O.B.	: 643.6 mm (Engine 341.1 mm + Tender 294.3 mm)	Steam Port	: 1.5 mm, Lap 0.5 mm, Travel 4 mm	Tender Water Tank	: Capacity: 200 cc, hand pump mounted
Width	: Engine 106.0 mm, Tender 106.0 mm	Valve Gears	: Walschaert type	Gas Tank	: Capacity: 60 cc
Height	: Engine 206.8 mm, Tender 129.0 mm	Boiler type	: Center flue type	Fuel	: Butane Gas
Wheel Arrangement	: 2-6-0 (All wheels insulated both sides)	Water Capacity	: 180 cc at 80% full		
Driving Wheels	: Dia. 45 mm made of stainless steel	Pressure	: 3 kg/cm ² at normal working		

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