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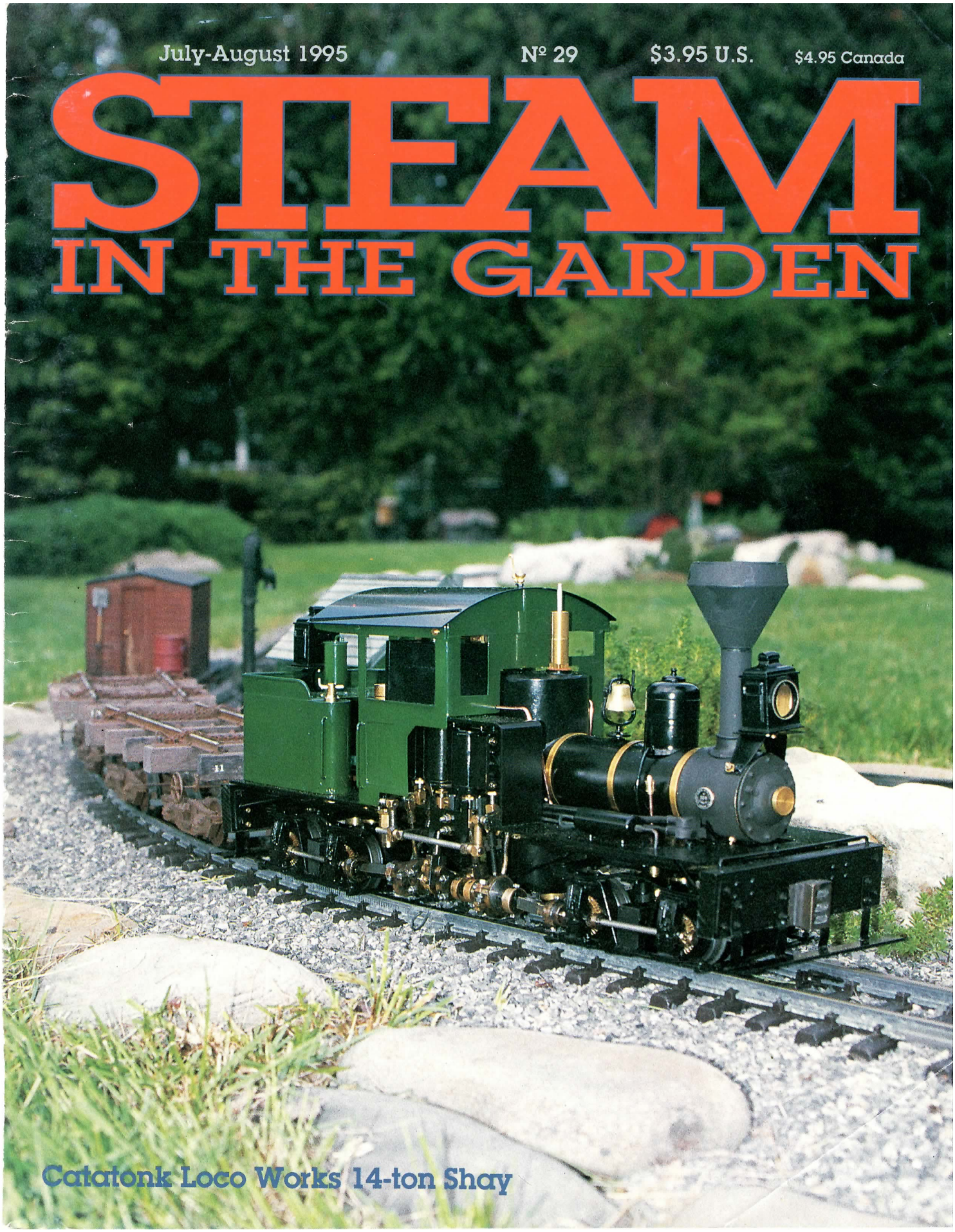
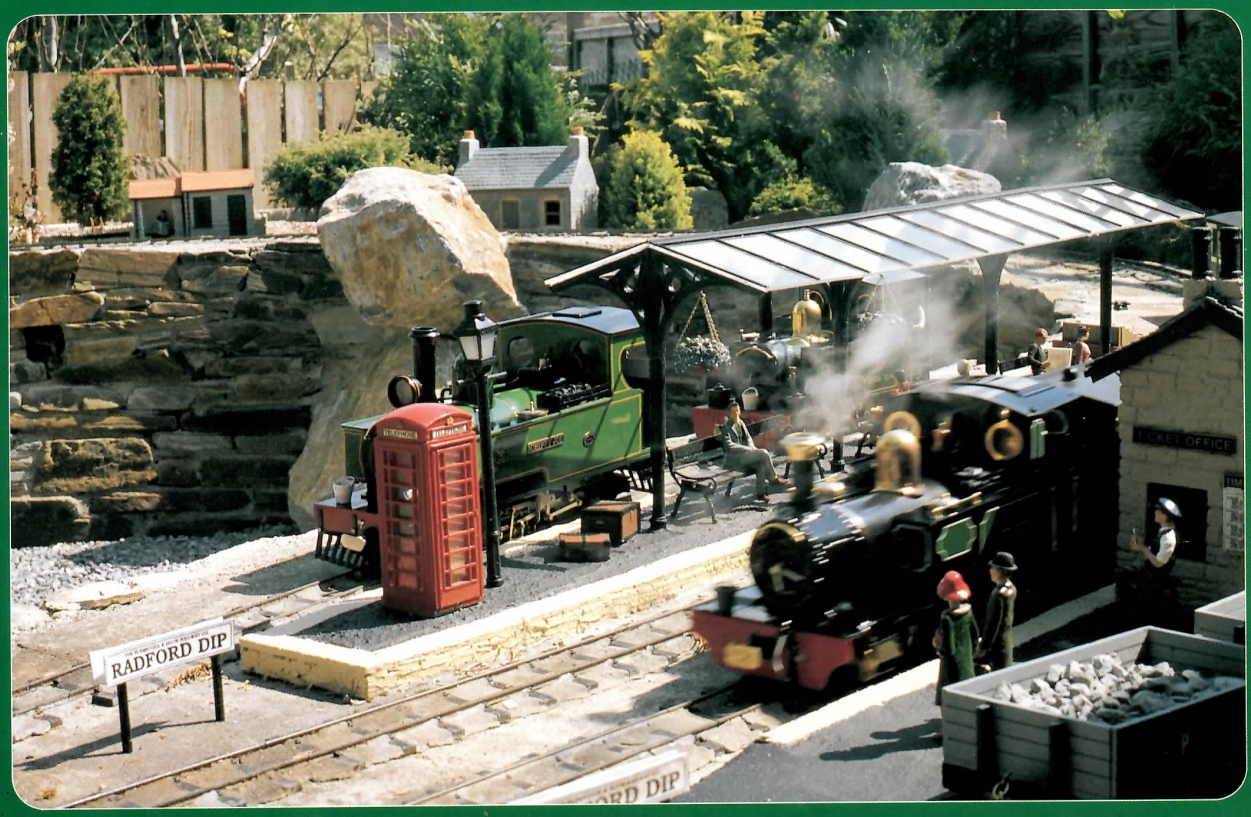
STEAM IN THE GARDEN



Catatonk Loco Works 14-ton Shay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STEAM IN THE GARDEN

Vol. 5 No. 5
Issue No. 29
July/August 1995

Articles

Departments

ON THE COVER:

The sun has just come over the tops of the hills in northwestern Pennsylvania as a 14-ton Shay, the exhaust from its two cylinders barking a rapidfire staccato rythm, rounds a bend on the way to the woods. There are a lot of hours left until sundown, and a lot of trees to haul to the sawmill. The engine is a Catatonk Shay, the log cars are by Sierra Valley Enterprises and the logging caboose is an early Little Railways pilot model that has been detailed and weathered by Randall Sauter. ***Photo byRon Brown***

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Ron Brown

Faithful Assistant
&
Office Sickie
Marie Brown

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Harry Wade

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Harry Wade

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Peter Jones ..... Wales
Chip Rosenblum ..... Ohio
Gene Rutkowski ..... Washington
John Wenlock ..... Wales

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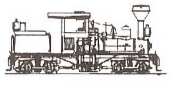
Items for review may be mailed to P.O. Box 335, Newark Valley, NY 13811 or sent via UPS or FEDEX to 6629 SR 38, Newark Valley, NY 13811.

Questions or comments? Call us at 607-642-8119 before 9:00 p.m. Eastern time, please -- or FAX us any time at 607-642-8978.



1995 Calendar of Events

September 2-3 -- Pennsylvania Live Steamers Labor Day Steamup. A repeat of the Memorial Day Steamup.

September 15-17 -- The Third Annual Indiana Transportation Museum small-scale steamup is to be held outdoors on the grounds of the museum in Noblesville, Indiana, a suburb of Indianapolis. Five elevated 380' loops for gauge 0 and gauge 1, plus steaming tracks and storage tracks for gauge 1, will be operating. Water and fuel will be provided. Registration fee is $30.00. Checks may be made payable to Collett Park Railway. For motel accommodations call Holiday Inn Express, Fishers IN direct at 317-578-2000. For further information contact John W. Bloxdorf, M.D., 2540 North Ninth Street, Terre Haute IN 47804 -- 812-466-1007.

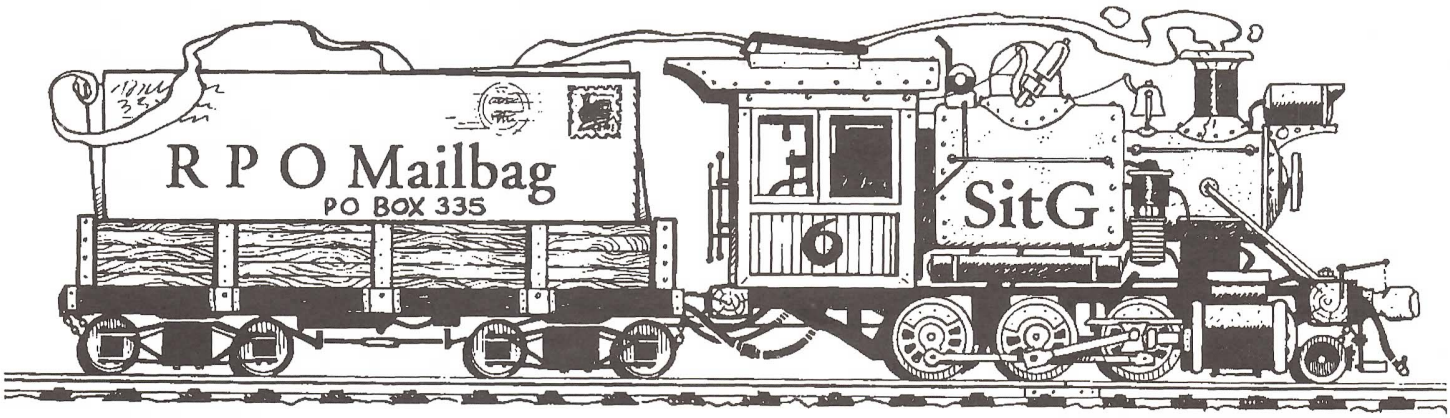
September 16 -- Sixth Annual Steamup on the former Silo Falls Scenic Railway in Upstate New York. The Silo Falls has succumbed to the depradations of the bean counters and, after a period of downsizing, has gone bankrupt. The trackage has been purchased by the Catatonk Log & Lumber Co., prosperous logging company whose owner, a kind fellow and a lover of steam himself, will continue to honor tradition with an annual steamup. Ground level gauge 1 trackage with minimum radius curves and 3% grades. Meths, steam coal and lunch provided by hosts. A total track replacement project is slated for this summer, so check with the hosts before heading for this one! Contact Ron & Marie Brown, PO Box 335, Newark Valley NY 13811 -- 607-642-8119.

CANCELLED

September 22-24 -- Associazione Modellisti Foligno Citta Ferroviaria organizes STEAM MODELING INTERNATIONAL FESTIVAL, Center Italy, Foligno -- Valtopina. Steam Locomotive Exhibition and Demonstration, scale 1:32 and 1:11. We speak English & French languages. Please contact Dr. GUIDO MATTOLI, Via Roncalli 11, I-06034 FOLIGNO, ITALY. Phone 0039-342-212485 or FAX 0039-742-358449 (24 hr.).

January 12-14, 1996 -- National Gauge 1 Steamup in Diamondhead, Mississippi. This is the BIG event for small-scale live steamers in North America, so don't miss it! Gauge 1 and Gauge 0, 1:32 scale through 1:19 scale, mainline through logging -- a wide variety of steam locomotives in many different sizes and types will be running during this event. The venue will be the same as previous years - the indoor Atrium at the Days Inn in Diamondhead, Mississippi, just a one hour drive from New Orleans. For more information or to register, contact Jerry Reshew, National Gauge One Steamup, 5411 Diamondhead Drive East, Diamondhead, Mississippi 39525. Phone or fax 601-255-1747.

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.).



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. Some letters may be edited for length or clarity. 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.

* * * * *

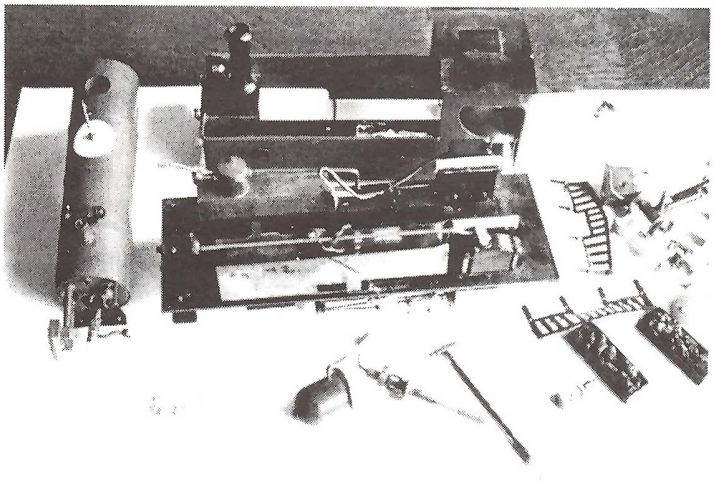
Cornwall, U.K.

Dear Ron,

Frankly I really don't know how you manage! I have a continuous backlog of correspondence, articles, etc. that I never seem to catch up on -- and you manage to edit a magazine as well!!

The Cornish weather is doing its usual winter worst. I sometimes think the more robust climate in the north would suit our hobby better because then I would at least get to run steam trains through the snow. As it is -- its either raining, just stopped raining or just about to start, so you'll appreciate that I'm quite envious of your climactic conditions over the Christmas holiday!

What time I have been able to spare has been concerned almost exclusively with locomotives. I am sure that I told you about my purchase last summer of a box of parts that has turned into a rather fine early example of a Merlin Hunslet. This machine has taken up rather a lot of time as I have been converting it to allow servicing without removing the body shell. The conversion was successful and produced a good runner. Unfortunately, a previous owner had fitted a larger gas jet than standard and when the gas was turned up in the cold weather the gas burnt undetected beneath the boiler! This caused the servo to short out, damaging the radio receiver and, worse, melting the nylon centres of the front main drivers -- an item that is irreplaceable. There is, however, always a way, and Pearse Locos have provided me with a suitable modern type axle, the insulated wheel centres are currently being manufactured by a friend locally and I fully expect "CHIPPY JOE" to be on the road again by the end of the month.



ABOVE: Tag's "box of parts" loco.

I also have, temporarily on the roster, another Merlin Hunslet now properly timed and with a new whistle, and this too is a good runner. Those old Beck cylinders were really quite well made and the early Hunslets were, if anything, over engineered.

The other locomotive is a brand new Pearse "AURIC" on loan to provide a review for Garden Rail. This is a simple large boilered, four-coupled locomotive with fixed valve gear in the tradition of the old Merlin "MAYFLOWER", but obviously far more refined.

I do feel that there is a market for this type of engine, something simple and powerful, that will remain in steam continuously, is tractable enough to conduct switching operations with ease, provides an attractive chuff and produces loads of steam exhaust.

There is a coal fired Vale of Rheidol locomotive currently taking orders in the UK that has eight channel radio control. It is beautiful and I would love one, but I somehow suspect that it wouldn't bear the brunt of the services on the LWR. For me, there will always be a place for the type of loco that I can control from a recliner with as little fuss as possible! Unkind local members of the 16mm Association have suggested that the reason I like to switch the radio off and leave my trains to their own devices is that I'm too busy talking to be bothered!

I'm looking forward to an in-depth report on the new Catatonk Shay. Sadly, this type of locomotive is not suitable for either the gauge or the traffic on the LWR. I could just imagine the faces of the locals as this exotic beast rumbled up the bank to Trematon! It is, however, exciting to see the emergence of American prototypes into the market in the scenic scales. Modified British-style steam locos are on the way out for modelers of Ameri-

can steam, and perhaps in the future we will see less of soulless steam outline electric mass production. Oh, dear...my prejudices are showing!

I have just completed an article on the LWR for publication in Garden Railways. My opinions on the relative merits of live steam and electric steam traction had to be couched in more tactful language for the majority of that magazine's readers. Hopefully we will continue to get converts!!!

Yours Aye,
Tag Gorton

New South Wales, Australia

Dear Ron,

I am typing this letter on the evening of Easter Monday after an enjoyable, long weekend of work on a Roundhouse Lady Anne (kit version). The loco belongs to a friend, Bill Bolton, who bought it while on a trip to the USA. It was built from a kit by somebody and would not work. Originally I borrowed the engine from Bill to use in a talk to the local Cub Scouts about Garden Railways as a hobby. The only steamer I have is a Mamod and I wanted a more "proper" steam engine to show.

The loco is 0-gauge, the same as my track, and it seemed a pity that I could not run the loco due to unknown faults. So, with Bill's permission I have had a look at it. My only previous experience has been with the Mamod, but I have collected magazines for over 10 years, absorbing all the information contained in them, and I have scratchbuilt a large, rod drive, battery diesel. Anyway, after dismantling the loco down to a bare chassis, I found the crank quartering was out and the valve events were wrong. Novice loco engineer here adjusted these faults and got the chassis running on compressed air.

Fitted the boiler back on and discovered another fault...the meths tank leaked! Fixed that and raised steam. The loco now runs quite well and the feeling of accomplishment was almost as good as if I had built the thing from scratch! I have also learned a lot about live steam locos, which can be put to good use in scratch building my own in the future.

Bill doesn't want the loco back in a hurry, so the Berowra & Nalya Tramway will give it some extensive testing (just to make sure, of course!). Also the workshop smells deliciously of meths and hot steam oil!

Yours faithfully,
Michael Bickford

Bellevue, Washington

Dear Ron,

Enclosed is a shot of my latest project. I was so enamored with Mr. Murray Wilson's antiques at Diamondhead that I decided to build one. Wheels are from "The Real McCoy" standard gauge train (Kent Washington's best kept secret).

Cylinders are Mamod with Mike Chaney kits. Stack, dome & buffers are stolen from my rescaled Aster Mogul. I made no attempt to scale this loco -- as in true toy tradition. It is based on a Carette Stirling Single photo in "Collecting Toy Trains", by Pierce Carlson.

Just when gauge one steam is becoming so detailed, complicated and sophisticated -- I find myself bolting in the opposite direction!

Jim Montgomery

Everett, Washington

Dear Mr. Brown,

Thank you for my first issue of SitG! I appreciate the work your magazine is doing to help unite the live steam railroad enthusiasts. I am just getting started and hope the advertisers and articles will help me make the right choice selecting my first live steam locomotive.

Thanks,
Edwin H. Besaw

E. Falmouth, Massachusetts

Dear Ron & Marie,

This spring when I finally got around to organizing the winter's collection of garden railway "stuff", I suddenly realized that we were no longer getting ***Steam in the Garden*** magazine.

I keep dreaming of running a fleet of live steam trains over hundreds of feet of shining track though beautifully landscaped garden. Then I descend out of the clouds and read about what others have done.

We are working on our ***Canal, Cape and Ocean Railroad***, whose directors have tentatively OK'd the purchase of a live steam locomotive this year. We enjoy reading ***Steam in the Garden*** magazine, and finding out what others in this great hobby are doing. The color photos really catch the eye. I enjoy ***What's New?***,

Gazing Into the Fire, Product Reviews, Steam Scene, and all the rest of your magazine.

Regards,
Jim & Peg Irish

Canton, Ohio

Dear Mr. Brown

I have enclosed the most recent photo I took of the № 1 gauge steamer I was telling you about...don't know if it is good enough for publication, but at least it gives you a better idea. I believe it is a very well built and engineered engine, featuring a front cylinder lubricator, axle pump, manual tender hand pump working reverse, water and pressure gauges and blower.

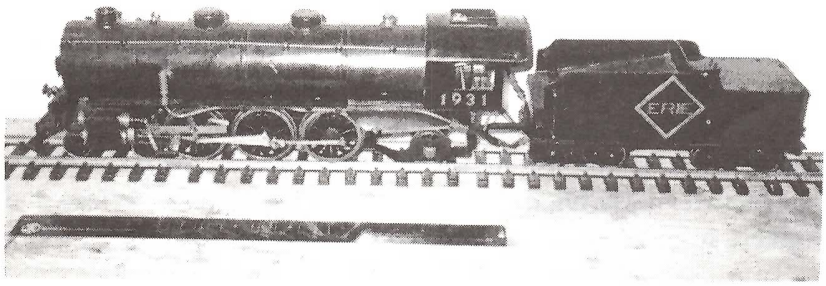
Construction is mostly all brass, with a copper boiler. The engine alone is nearly 20 inches long. The only information I have on its background is a statement that it was originally purchased from an old gentleman in eastern Pennsylvania. The Erie logo on the tender and the 1931 on the cab are raised lettering in brass, and I assume the 1931 number refers to the year it was completed -- a practice I have seen on other live steam models of larger size.

I'd love to know more about its history, as I enjoy the early history of the live steam hobby, especially in this country. I have been trying to add to my collection of old Modelmaker magazines, hoping to come across a photo of this engine that might have been sent in when the original builder completed it.

Does anyone have -- or know of -- any old steam magazines for sale?

Thanks again,

Bill Hill



Here's your chance to do a good deed for the day and come to the assistance of a fellow steam enthusiast -- can anyone out there help Bill with some information? -- ed.

Essex, England

Dear Ron,

They say that you can tell a lot about a periodical by its letters column, and with three whole pages of letters in R.P.O. Mailbag which are not padded out with subscription requests -- yes, we did notice! -- I guess SitG must be making substantial progress as a journal to be taken seriously.

Anyway, to business and, firstly, a correction. In the last two issues I have been credited in Rob Kuhlman's articles with the manufacture and supply of "Goodall" valves. The genuine Goodall boiler filler valve for Mamod locos is manufactured by Deryck Goodall in Wales and is available only from our friends at Salem Steam Models. I understand that Deryck is rather peeved at having his name applied to imitations.

I've been making quite good progress on the C-16 design using "Little Blue" and a cheap but effective CAD package. The experts tell me I should be using Autocad™ and a proper plotter, but I am but a poor man, Sir, and I have found that Draftchoice, a shareware package from Trius Inc., PO Box 249, North Andover MA 01845-0249, in conjunction with a Canon bubblejet printer, make a worthy substitute. I have been able to generate .DXF files from which laser cutting can be done without intermediate processing, which keeps the cost within reasonable bounds. So far, the only hardware to hand for the C-16, though, is circular in shape -- namely the wheels, which are investment castings and looking quite good. We had two goes at them, in fact, the second one with the help of a superb book recently reprinted by Lindsay Publications Inc. It's called *Modern Locomotive Construction, by J.G.A. Meyer*. It was originally published in 1892 -- yes, a century ago -- and is full of dimensioned drawings, formulae and explanations for the loco designer of the day. Meyer was himself Chief Draftsman at the Grant Locomotive Works and was later on the editorial staff of the *American Machinist*, so he writes well and with authority. Anyone contemplating a model of an early American loco **needs** this book.

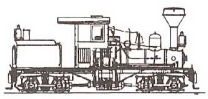
Which brings me to Malcolm Wright's struggles with the Stephenson's valve gear on his Porter. I don't know much about Porter locos, but I assume that the one Malcolm has modeled is quite an early one, because Meyer is quite adamant (in 1892) that connecting the lifting link to the bottom of a launch-type expansion link and not the middle will give poor valve events in reverse. Perhaps Porters -- like launches -- spent most of their time going forwards!

And that brings me to a fundamental difference between British and American operating methods. In Britain, mountain engines, such as those on the Ffestiniog, Talyllyn, etc. in Wales, always kept their backs to the sea so as to keep the firebox crown wet at all times. (The Welshpool & Llanfair was, by contrast, basically fairly level, but firemen had to keep the injectors on while going up the Golfa bank because of the problem of going down the other side.) They ran equal distances in reverse & forward.

By contrast, I was amazed, horrified even, as it's so alien to British practice, to discover that American mountain engines ran forwards at all times -- if they were to remain on the track, that is -- even on the steepest of down grades. This explains the need for the "wagon-top" boiler and the very tall steam domes to keep the level up without having water going over into the cylinders and breaking things. I don't think any of the little Welsh railways knew about wyes and turntables, except perhaps for wagons in the slate quarries, but of course the Rockies were littered with them. The covered turntable on the main line at Corkscrew Gulch on the old Silverton Railroad must surely be unique, but they had to get the train down the hill somehow!

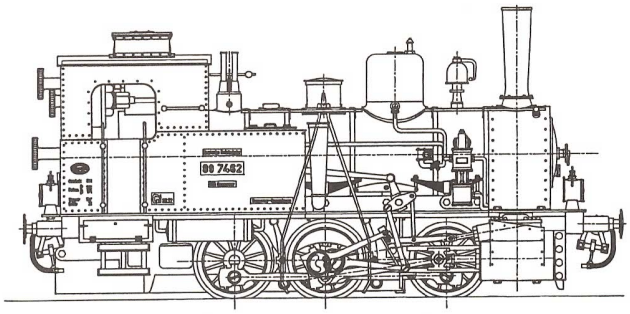
It just shows, you learn something new every day! Anyway, enough of this rambling, better leave some space for someone else.

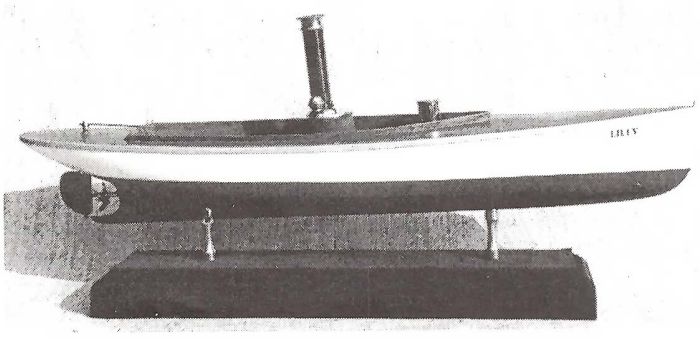
Kindest regards,
Mike Chaney



WHAT'S NEW?

ASTER HOBBY CO., INC., 1-13-34 Hakusan-cho, Midori-ku, Yokohama, Japan, 226 announces a new model steam locomotive, the BR 89/T-3. The BR 89 has been available since early June and the T-3 will be available in August. Working Allan straight link valve gear is featured on the new locomotive, and it should be wonderful to see it in motion. Contact your Aster dealer for more information and pricing.

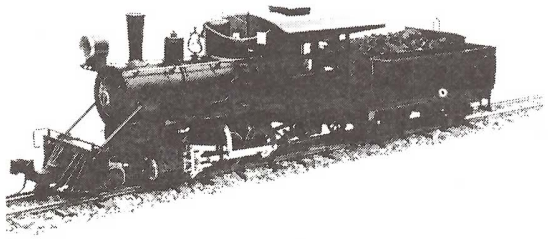


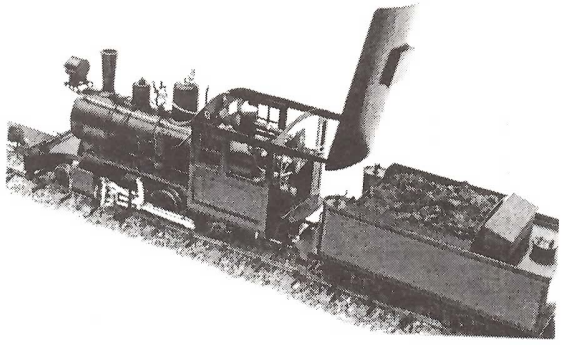


PHILCRAFT, Springhead Farm, Amberley Road, Storrington, West Sussex RH20 4JD ENGLAND -- phone 011-441-903-742-777, has just introduced a beautiful Windemere Class Victorian Era Steam Launch, powered by one of their excellent miniature steam engines. The boat is 15" long, and features a fiberglass hull with mahogany decking, beautifully finished and ready to run in your swimming pool or pond. This is not a toy! It is a very high-quality, very reasonably priced miniature steamboat. Available now direct from Philcraft, or from their North American agents, **Ken and Jerra Matticks at Lynn Boats, 3725 Pageant Place, Dallas TX 75244 -- 214-247-1208 (phone & fax).** Write or call for more information or to get on the reservation list.

LGB of America, 6444 Nancy Ridge Drive, San Diego CA 92121 -- phone 800-669-0607 has announced that the classic Lehmann "Gnomy" locomotive is again available in America. The no-scale, all-fun Gnomy is a colorful replica of LGB's trademark "Stainz" locomotive. Equipped with an internal friction motor and soft rubber tires, the Gnomy loco requires no wiring, no electricity and no track. It's perfect for model railroaders on the go, and as a result, Gnomy racing is an increasingly common event whenever big train fans gather at shows, conventions and taverns. The Gnomy locomotive (80990) is available from LGB Authorized Retailers, LGB Authorized Train Stops and authorized Lehmann retailers.

Rio Pecos Garden Railroad Co., 27136 Edenbridge Court, Bonita Springs FL 33923 -- phone 941-495-0491/ fax 941-495-7264 announces that the much anticipated Pearse 2-6-0 "COLORADO" should be in stock when you read this. We look forward to reviewing this locomotive for our readers in the very near future. Write, phone or fax Bob, Fran or Rob at Rio Pecos for more information and prices.

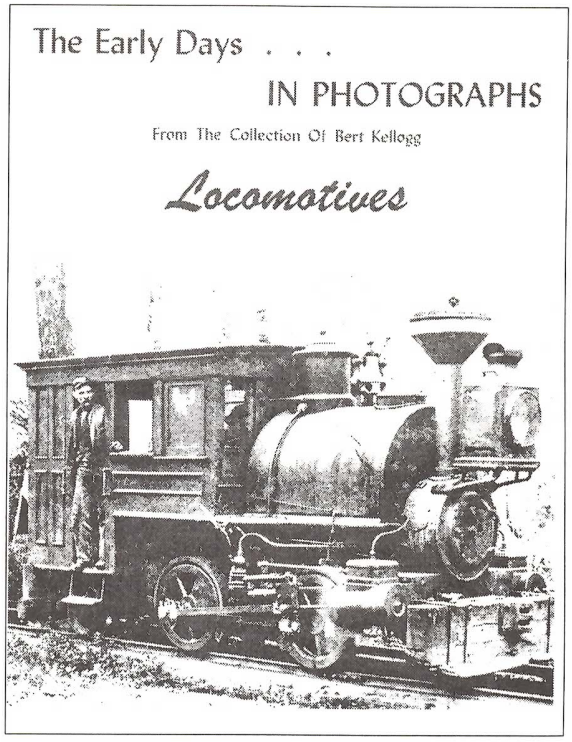




J.M.G. Hobbies, 3040 Water Brook Drive SW, Conyers GA 30207 -- phone/fax 404-483-9526, has relocated to a permanent location in the Peach State and they are in the process of finishing their new store. Proprietor Joe Mac says that they look forward to welcoming model railroaders in all scales and gauges who may be passing through the area, as well as continuing to offer top-notch support and service to their mailorder customers. J.M.G. Hobbies will be sending out a quarterly newsletter to keep their customers up to date, and in addition will be mailing sale flyers for extra savings on selected items. Joe and Mary send thanks to all their loyal customers for their patience and support during the relocation from Cold, Cloudy New York State to Warm, Sunny Georgia. If you aren't already on J.M.G.'s mailing list, send $2.00 for their large-scale catalog -- and tell Joe you read about it in SitG.

J&J Trains, 5348 Vista Del Mar, Cypress CA 90630, phone/fax 714-828-1537, announces that they have the new "1" Gauge locomotive from Aster, the BR89 T3. This wonderful locomotive ran throughout Germany and was typical of the locomotives that ran in Europe in the 19th Century, pulling both passenger and freight. In keeping with Aster quality, they have made the Allan valve gear on this BR 89 work -- a first for this type and size.

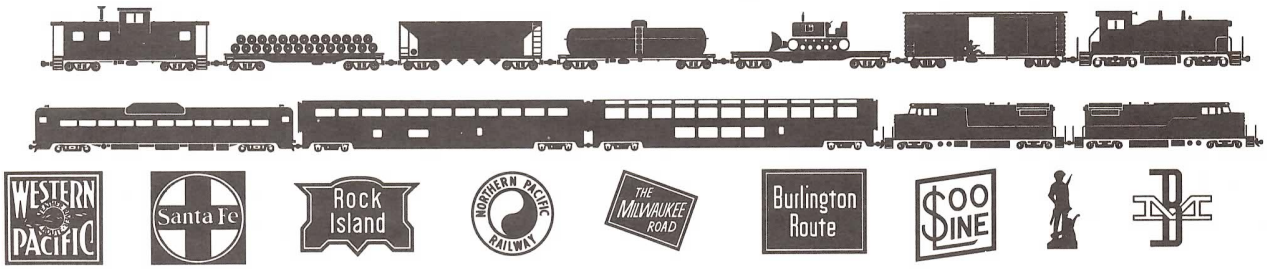
Peninsula Publishing, Inc., PO Box 412, Port Angeles WA 98362 -- phone 206-457-7550, has a wonderful series of booklets consisting of old, but very nice quality b&w photographs, complemented by detailed captions, on a variety of subjects of interest to many of us, particularly those of us who are blessed with a fascination for logging. The series is called **"The Early Days...IN PHOTOGRAPHS"**. There are 8 booklets in all -- we have purchased for our own library and enthusiastically recommend the following 4 booklets -- **"Logging Trucks"**, **"Timber"**, **"Logging"** and, last but certainly not least, **"Locomotives"**. Contact the friendly folks at Peninsula Publishing by letter, phone or smoke signal for more information about this series. You will be pleased with what you see, and very pleasantly surprised by the low prices.



TimberTimes, Box 219, Hillsboro OR 97123 -- phone 503-648-6530, is another publication dedicated to coverage of the history of logging and lumbering. TT is a very well done quarterly, containing lots of photos and information for those of us interested in modeling logging and lumbering operations on our miniature railroads. There are construction articles on such things as logging speeders, and other items of interest specifically for modelers, too. The editorial and writing style in TT is relaxed, informal and friendly, making it a real pleasure to read from cover to cover. One of the features of TT that I like best is that many of the articles are firsthand accounts of logging in "the good old days", written by people who were there and actually lived the experiences they are writing about. Contact editor Steven R. Gatke by letter or phone for more information.....and please tell him that SitG sent you.

Benn Coifmann, ASUC Box 624 #4510, Bancroft & Telegraph, Berkeley CA 94720-4510, or E-mail ZEPHYR@CORY.EECS.BERKELEY.EDU, has come up with some wonderful railroad fonts for both PC and

Mac users. These are shareware fonts, which means that you can try them before you buy them. And if you do decide to keep and use them, Benn is literally giving them away at $10 for the first font and $5 for each one thereafter (copied onto your own formatted disk(s). My favorites are Alphabet Train, Freight Train and Work Train, but there are others for just about every interest and taste. Benn has indicated that he would like to come up with more of these fonts, focusing on things like steam, logging and other things near and dear to the hearts of SitG readers. Let's give him some encouragement!

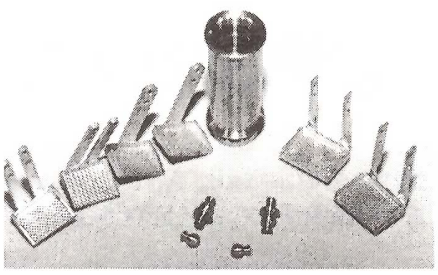


The fonts are scaleable (you can make them any size you want) and are very well proportioned and of high resolution. All the cars and locomotives I've tried couple up perfectly and look great together. In addition to steam (not enough of them!) and diesel (way too many of these!) locomotives and rolling stock of all kinds, Benn has also included handcars, railroad heralds and lots of other neat accessories. If you like railroading and have a computer, you'll certainly want to give these fonts a try. Write to Benn, or contact him via his E-mail address for more information. Really neat stuff! Tell him we want more steam locos, please.

Catatonk Locomotive Works, PO Box 335, Newark Valley NY 13811 -- phone 607-642-8119 or fax 607-642-8978, is pleased to announce that they are now shipping engines to fill long-standing orders for their Catatonk Shay, a 1:20 scale model of a 14-ton, 2-cylinder, 2-truck, 1890's era Lima Shay. Built in Australia by Argyle Locomotive Works to drawings by Al Armitage and design parameters established by Catatonk Loco Works, this locomotive has been under development for about two years. The pilot model was seen on display and in operation at Diamondhead '95, and the first production model of this Shay is featured on the cover of this issue of Steam in the Garden magazine. For more information or to get on the reservation list, contact Catatonk Locomotive Works.

Rio Pecos Garden Railroad Co., 27136 Edenbridge Court, Bonita Springs FL 33923 -- phone 941-495-0491/fax 941-495-7264 has just released some new items for the garden railwayman & live steamer. A new 5-bent trestle, all cedar construction and designed to accomodate LGB sectional track, is now available built-up and ready to plant on your railway. Designed and built especially for the Maxwell Hemmens Porter is "Iron Mike", an engineer figure cast in solid pewter and hand painted. You can see Mike in the photo in Rio Pecos' ad in this issue. Another item from Rio Pecos made especially for the Maxwell Hemmens Porter is a Goodall-type boiler water injection valve, which makes it easy to add water to the boiler while the engine is under steam. With the generous fuel capacity of the Hemmens Porter, this valve will allow the garden steamer to extend the duration of a single run to as much as two hours or more just by adding water to the boiler occasionally. Phone, fax or write Rio Pecos for more information on these new items.

Trackside Details, 1331 Avalon Street, San Luis Obispo CA 93405, has added some new items to their line of high quality detail castings and turnings. As shown in the accompanying photo, these include (l. to r., back row) TD-118 Tender Steps, double strap type, medium/large; TD-116 Pilot Steps, single strap, large; TD-124 Stack; TD-117 Pilot Steps, double strap, large; and in the foreground are the TD-122 Finials & Flag Holders. The details really make your engines stand out from the crowd! Send a SASE to Pete Thorpe at Trackside Details for his catalog of excellent quality detail parts. And tell him SitG sent you.



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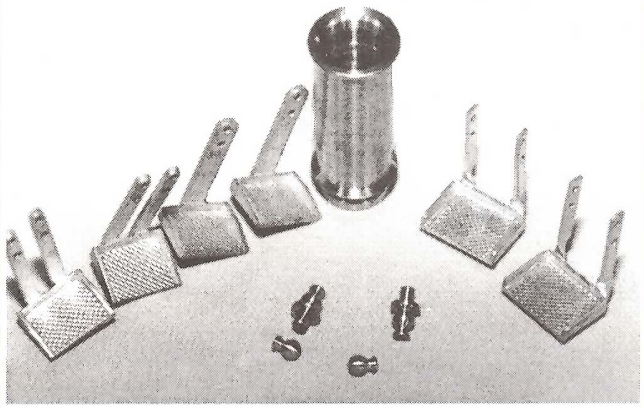

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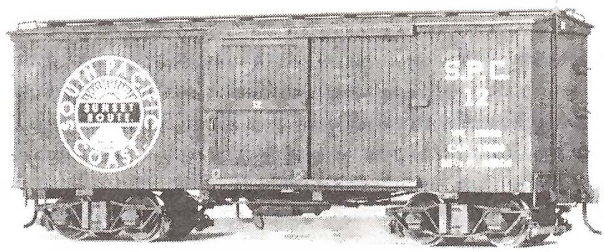

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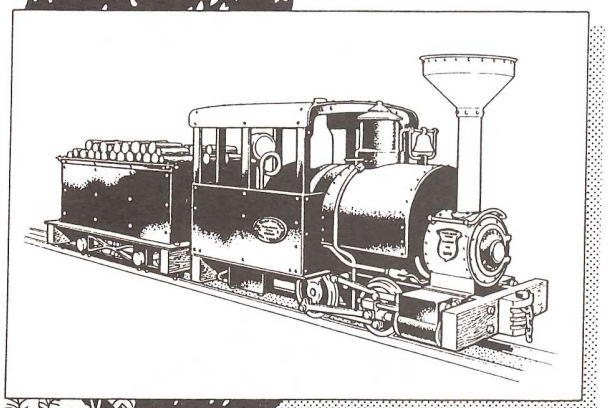

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The Fitter's Bench

by Crankpin

Drawings by Harry Wade

Ol' Cranky offers some final words on chucks...

What with all the metal chips now flying about at the business end of your lathe, some of which are very nearly invisible to the average eye, the unfortunate fact of workshop life is that many of these will find their way into the various parts of your machine, Including the insides of your chucks. Sooner or later this accumulation of foreign matter must be dealt with by giving things a good cleaning out -- not a cleaning off, but cleaning out.

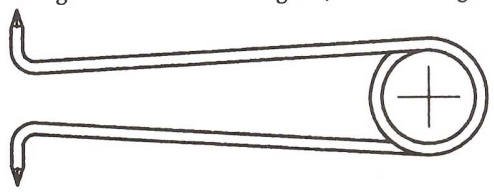


FIG. 1 THREAD CLEANING TOOL

Since this cleaning out business is a nasty and bothersome job under the best of conditions, requiring as it does the complete disassembly of the items to be cleaned, I will leave the description of this particular task for a future time. What I have for you today are a few other odd bits, none of which take any time at all to perform, and which, when applied faithfully in the use and care of your chucks, should go a ways towards making your lathe work a bit easier all around.

It is of utmost importance to keep the spindle threads and the chuck mounting threads free of metal chips, grit, or other foreign matter for two principle reasons. First, both threads are cut to high standards of accuracy and are intended to fit very closely. A weensy chip with a thickness of only a few thou' caught betwixt the two is sufficient to cause the chuck not to seat squarely on the spindle nose, resulting in some amount of runout in the chuck body and thence in your work. Secondly, the accumulation of foreign matter can cause a chuck to be tight in its threads and repeated screwing on and off may cause unnecessary thread wear, not to mention the extra physical effort required to change out your chucks. Although seemingly inconsequential, both are a potential source of problems.

The threads and mounting surfaces (flats and shoulders) of both the chuck and lathe spindle should be checked for chips and thoroughly brushed or blown clean each time you install a chuck on the lathe spindle. One item which I always keep on hand to help with this job is the common Bottle Brush (Fig. 2), one with a somewhat stiff poly or hair bristle of a size slightly smaller than the diameter of your spindle thread will do a good job. If you should opt for one with metal bristles they must be brass and not steel. EACH and every time I install a chuck I first give it a run-through and whirlaround with the brush and then look to see if all is clear. This ritual may seem to you to be a bit time consuming but you will discover that in actual practice one's chucks aren't changed as often as it first might seem, and what little time is required for this job is well-spent indeed.

Occasionally, two or three times a year should do it, the mounting threads of your chucks should be cleaned with a pointed tool such as the thread scribe shown in Figure 2. This treatment will dislodge any accumulation of oily dirt and chips that has become packed in at the root of the threads. A scribe to suit your chucks is easily made up from a length of brass or mild steel, certainly not larger than 1/8" diameter, bent to shape as shown, and which has points filed or ground on its business end. The scribe is inserted into the chuck and turned completely through the threads. This then is followed by a thorough brushing with the bottle brush or by a squirt of compressed air if available to completely remove the residue. Brass is the preferred material for the scribe since this metal will serve to dig out the glop, yet do little or no harm to the chuck threads.

Another important part of working with chucks that I rarely see addressed is that of taking pains to avoid overstress in the

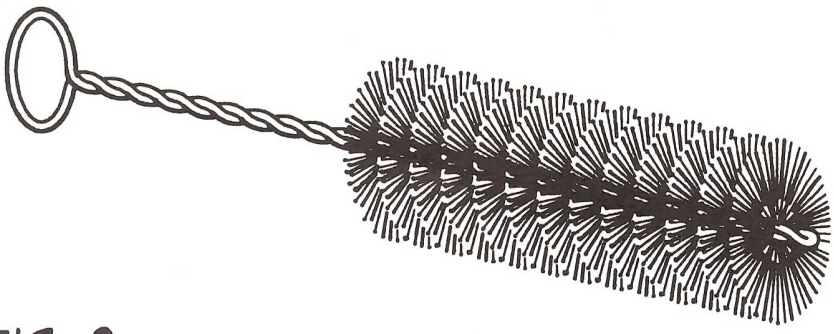


FIG. 2 THE BRUSH FOR CLEANING SPINDLE AND CHUCK THREADS

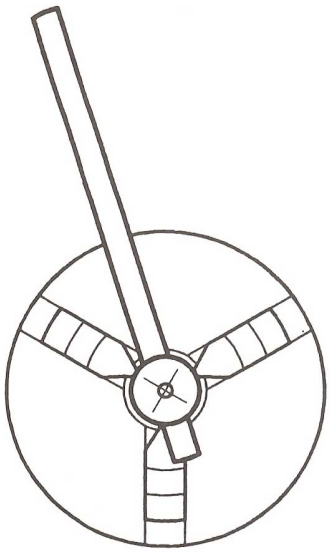


FIG. 3

chuck by using anything other than hand power on the chuck wrench to tighten the jaws. Never use anything such as a tommy bar or wrench extension that will increase the mechanical advantage beyond what can be applied to the wrench by hand. There is already a tremendous mechanical advantage within the design of the garden variety jaw screw and if sufficient holding strength for any chuck application cannot be achieved by hand torque alone then something else is amiss -- or the chuck is possibly not appropriate for the job to be done. This applies to both three jaw and four jaw chucks (as do all of the comments in this issue), since the threads on the jaw screws and the jaw slide ways do have a limit of strength even in the best of chucks. A stripped or broken thread on a jaw screw can be remedied by the purchase of replacement parts, but a broken jaw track usually spells doom for that chuck.

When mounting a threaded chuck, do not spin the chuck onto the spindle nose so that it bangs up tight against the spindle shoulder. This simply is not necessary, and the result is usually a chuck which becomes jammed on the spindle. A chuck which has been run on to the spindle and gently snugged up against the shoulder is just as secure, because the torque action of the cutting tool will hold it firmly in place and usually make it tighter. A chuck which has been properly mounted can be easily removed by placing the chuck wrench in one of the wrench sockets and, after locking or wedging the spindle rotation, give the wrench a little tug towards you and the chuck should easily spin free.

If you have through some misfortune been one of those creatures who has been a bit too eager and banged the chuck up against the shoulder leaving it hopelessly stuck in place (I confess that I have been such a creature at one time or another), then it is you, my friend, who are up against a nasty predicament. There is no one single cure for this bug as each chuck-spindle design combination will cling to each other with varying levels of tenacity, so a bit of experimentation will be called for on your part.

One cure that I have found likely to pop the little beggar loose is to use a lever of some sort held tightly in the chuck jaws. (Fig. 3) A short length of steel pipe which has been cross-drilled to pass a tommy bar of a diameter and length necessary to do the job is clamped in the jaws and given a go. An alternative to this would be to apply a plumber's pipe wrench to the pipe stub. (Fig. 4) In this way you apply the maximum torque to the situation directly in line with the lathe axis, and have the least possibility of damage to the chuck and surrounding parts.

I will not tell you that the use of impact in some form to break a jammed chuck loose is not sometimes necessary if one can find a way of applying the impact safely. However, one must never, ever, apply a mallet to a chuck wrench standing in the chuck jaw screw. This approach is the single one most likely to cause damage to the largest number of components of the chuck and lathe, the most devastating of which would be damage to the spindle and bearings.

Remember also, when working over the lathe bed with heavy tools, to put some sort of protective cover over the ways, such as a piece of wood or hardboard. Resist the urge to oil or grease the spindle threads as this does little or no good with respect to a jammed chuck, and in fact will act as a magnet for dirt and chips. A wipe of light machine oil every now and then may help things go on or off a bit better, but as for me I just keep them all dry, and of course clean.

The chuck mechanisms do, however, need an occasional squirt of light oil on the jaw screws and slides, in the case of the (our jaw, and on the scroll and slides of the three jaw. Don't overdo it though, because this is a Catch-22 where the chuck's need for a little lubrication now and then is offset somewhat by the tendency of the oil to attract chips. The more you oil, the more you will need to clean out chips. So there you have it lads. That is all you will hear from Crankpin Hall on the subject of chucks, at least for the foreseeable future. Perhaps we will have another go at how to put the chuck, and much of the other tooling that we have seen lately, to use in an actual project. Until then, however, there is much left to see, so we will press on next issue with the other bits and pieces of lathe tooling usually to be found tucked away on a shelf or drawer under the lathe bench. Smooth running until then.

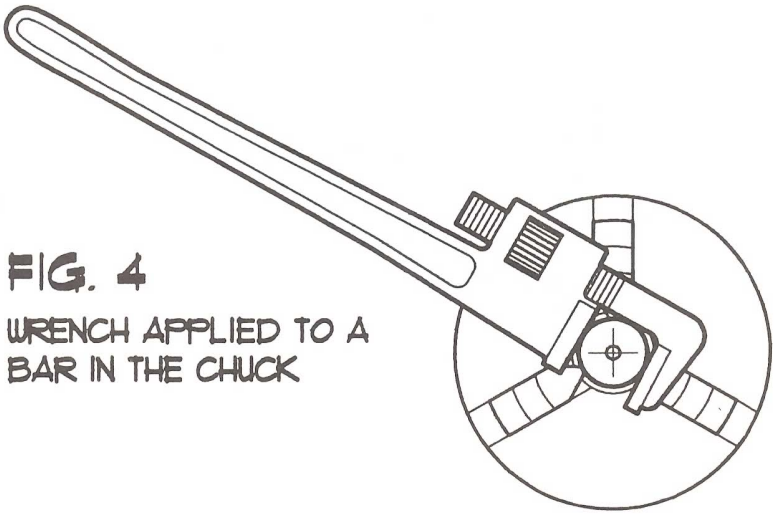


FIG. 4
WRENCH APPLIED TO A BAR IN THE CHUCK

Gazing Into the Fire

by Peter Jones
all photos by author

Tee Boilers

In days of yore I have cogitated on Tee Boilers and even fiddled around with bits of metal. In particular I had come up with the idea of using a commercial pipe fitting, known in the UK as a reducing tee piece, to give an instant firebox.

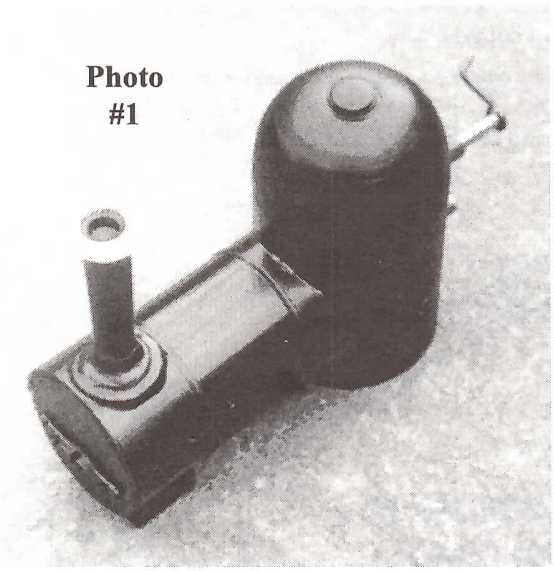


Photo #1

Tee Boiler -- the Basic Configuration

The various thoughts got buried up in the mental attic whilst I pursued other backwaters, But recently, I had occasion to go rummaging in that attic, I was preparing a series of loco designs for a British magazine and these gave me the chance to dust down a few old ideas.

The trick to making a tee boiler work well is to treat the firebox as a very efficient means of heating part of a boiler: so good in fact that you can live with part of the boiler being unheated and exposed to outside air This unscientific approach was well known to the toy traction engine makers like Mamod and Wilesco.

In an old design for a model of this type, my starting point was an old sugar shaker which gave me the haystack firebox with a lift off top. Had it not been available, I would have gone looking for the bowl of an ice cream scoop!

The tube that forms the main part of the firebox extends down between the frames, cut away at the sides. This forms a windproof box for the burners to operate in.

Now for the sneaky bit. If you want to generate more steam so that two cylinders can be comfortably run, the idea is to extend the boiler about one third the way into the smokebox and put an additional burner underneath, so turning it into another firebox ! Should you go this route on any model loco, I always found it important to run the front burner off a separate feedpipe from the tank: if you merely extend the pipe that goes to the rear burners, there is a strong likelihood of fuel starvation to the front.

The simple loco in Photo #2 has a single cylinder near the firebox. Because the steamline is so short, I hadn't bothered about superheating, merely wrapping the pipe, both sides of the lubricator, in asbestos string and painting with white masonry paint.

Yes, I can hear the sharp intake of breath when I mention asbestos. Provided it is worked wet, I don't think there is too much to worry about, if you only make the odd engine or two per lifetime. If there are problems, then I'm in trouble because I've used such stuff on many a full size machine. But I daresay that there is a more friendly alternative.

The loco in Photo #2 was loosely based on a British prototype. The actual model, LIONEDES, is to 2½" gauge and has a geared single cylinder drive on one side only. But it

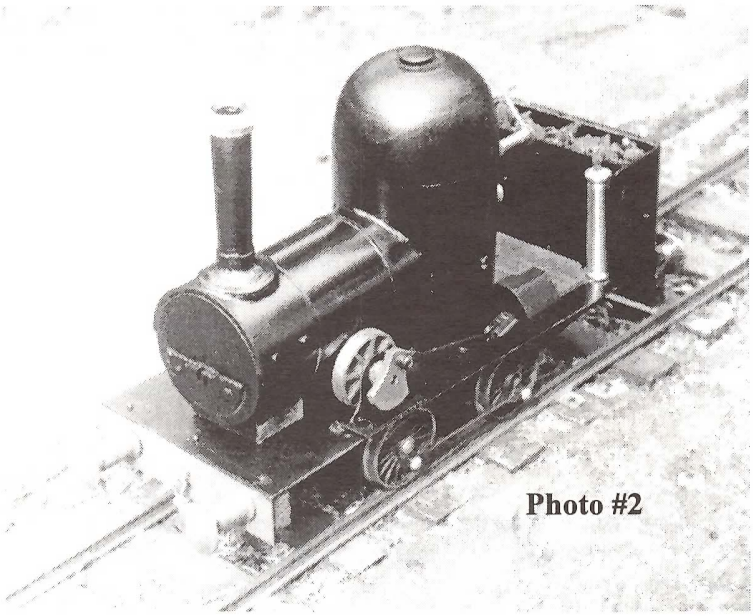


Photo #2

"LIONEDES", a Tee Boiler in an archaic British design.

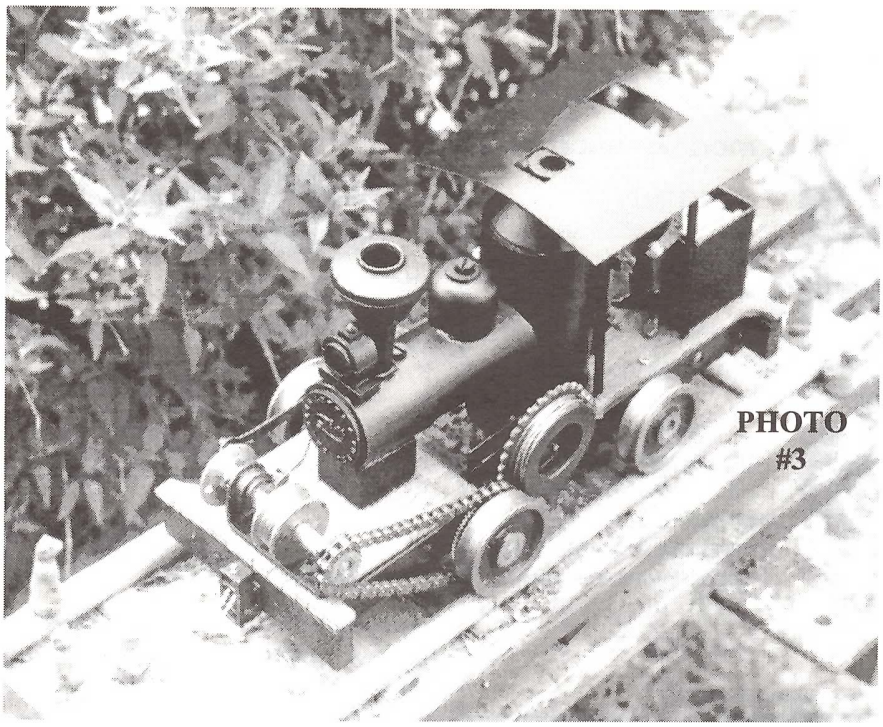
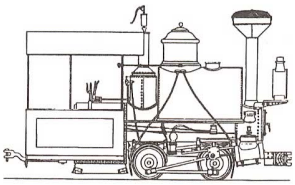


PHOTO #3

was used as a developmental model for LYONESSE, a narrow gauge version of more delicate and prettier proportions.

The third photo shows this type of boiler adapted for a pole road logging engine, with a layshaft at the front. Underneath the cute trappings, you can see the simple tee boiler struggling to get out.

A Tee-Boilered Pole Road Logging Loco



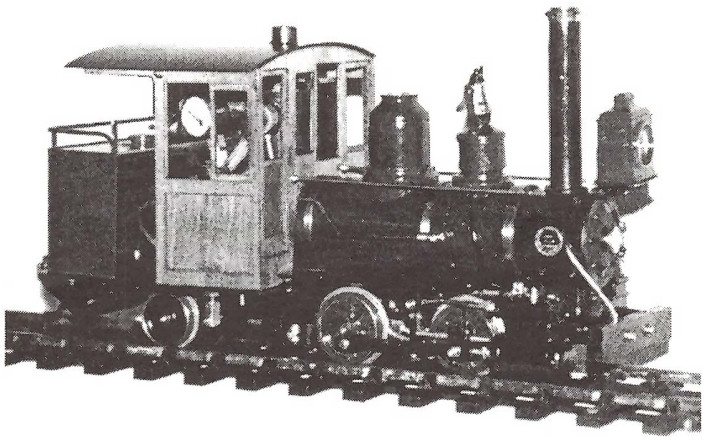
Locomotive Review -- "The Philadelphia Story"

Argyle Loco Works Baldwin 0-4-2T "PHILADELPHIA"

by Keith L. Hawthorne

Technical Specifications

Description:	Baldwin 0-4-2T Logging & Plantation Locomotive
Builder:	Argyle Loco Works, 241 Belgrave, Gembrook Road, CLEMATIS 3782, VICTORIA - AUSTRALIA phone/fax 011-61-59-686-573
Scale:	1:20.3, 45mm gauge (gauge 1)
Weight:	NA
Dimensions:	Length - 260mm, Width - 102mm, Height - 160mm (above rail)
Wheel arrangement:	0-4-2T, Drivers - 28mm over tread -- Pony - 20mm over tread
Radius:	3 foot minimum radius
Cylinders:	2 -- 10mm x 12mm
Valve Gear:	Slip eccentric or Stephenson
Boiler:	38mm diameter copper, silver soldered, steam dome in cab; every loco shipped with straight (coal burning) stack and diamond (wood burning) stack
Firing:	Butane gas -- single flue.
Lubricator:	Displacement type
Fittings:	Safety valve, throttle, pressure gauge, filler plug
Construction details:	Frames - 3mm laser profiled steel; cylinders - bronze; drivers - cast iron tires, brass centers; side rods - 2mm laser profiled steel, bushes on crankpins; bunker - etched brass, rivet detail, handrails; plenty of room in bunker for R/C of speed and direction; cab - laser profiled wood
Couplers:	Kadee or link & pin
Price:	R.T.R. -- Slip eccentric, US$1040.00 -- Stephenson valve gear, US$1099.00
Available from:	USA Agent -- Sulphur Springs Steam Models, Inc., P.O. Box 6165, Dept. RB, Chesterfield, MO 63006 -- Phone/FAX 314-527-8326 UK Agent -- WRIGHTSCALE, Burnside, Aboyne, Aberdeenshire AB34 5ES, Scotland, U.K. phone 03398 86494



Agyle Loco Works Baldwin 0-4-2T -- a fine looking locomotive and a great performer, as described by the author in this review.

photo by Ron Brown

I have to admit to an addiction. I don't know exactly when it began, but I think it was the fall of 1959. I was in junior high school and moving with my family from Wilmington, North Carolina to Jacksonville, Florida. My father was Chief Mechanical Officer of the Atlantic Coast Line Railroad, and the railroad's entire headquarters was being transferred.

By twelve, I had already enjoyed a life of main line railroading, office cars, and free reign of many railroad shops (pre-OSHA, of course). I most enjoyed sitting at the rear window of dad's office car munching on the always available salted peanuts and drinking Cokes that could be ordered at the push of a button (Mom sure wouldn't let me do that at home!). I would spend hours watching the ties appear from under the open platform and disappear behind us as I dreamed of becoming a railroad executive.

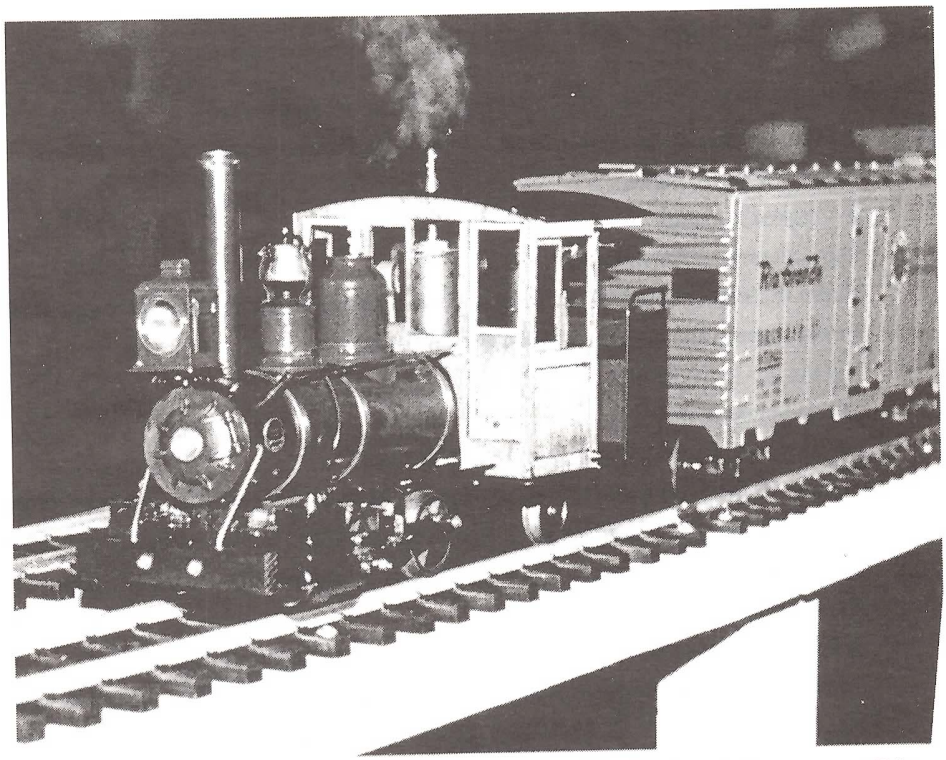
I remember the drive from Wilmington to Jacksonville all too well. We had a Nash Rambler station wagon and I would ride in the back pretending like it was my very own office car. My older sister, overcome with boredom, would periodically give me a poke or pull my hair just to hear me yell. My parents would respond with the appropriate admonitions and quiet would briefly prevail.

This continued until we were approaching the Savannah River and our exit from South Carolina. From my rear facing view, I spotted a lonely, minuscule steam locomotive on the east side of US 17. After a few moments of loud protests on my part, my father acquiesced and we returned to the tiny engine.

Dad and I left the car despite my sister's protests, and walked over to the pocket-sized treasure. I remember him telling me that this wasn't a "real steam locomotive," not like the big railroads had used, but a "loky." A loky, according to dad, was sort of a poor man's excuse for a locomotive. He explained that such diminutive machines were used by lumber companies, coal mines and the like that had track that was too light for, or just couldn't afford, real locomotives.

I didn't care how lowly this loky was -- I was hooked. The giant smoke stack, streaks of orange rust, and compact size were just right for me. Here was a steam engine a twelve year old could relate to. (Not until recently, reading Mallory Hope Ferrell's, ***"Argent-Last of the Swamp Rats"***, did I realize that my loky was Argent Lumber Company's Number 7.) I had developed a life long addiction to lokies. Right then, right there, and with no cure in sight.

This story leads on through acquisition of numerous ozone emitting steam simulations in HO and On3, finally giving way to a passion for our small scale live steam. Is there any doubt that the newest addition to Argyle's line would literally leap from Carol Paule's hands into mine at Jerry Reshew's Diamondhead steam affair?



PHILADELPHIA puts on a show for the folks at the National Steamup at Diamondhead, Mississippi in January '95 by pulling a heavy string of freight cars. ***photo by Mike Buster***

Actually, I think I was the luckiest guy at Diamondhead. I just happened to arrive at the motel as Carol was unloading Sulphur Spring's Steam Models Ltd.'s goodies in the steamup area. I watched attentively as other jewels emerged from their packing, then out came Gordon Watson's latest and smallest masterpiece, the "Philadelphia."

As I admired the little marvel, Carol advised me that this was a one of a kind prototype and that Argyle would be making the Philadelphia in both slip eccentric and full working Stephenson valve gear versions. She also advised that she and Bob would be taking orders for production models during the steamup.

Then the unthinkable happened, Carol said that they would be selling the prototype during the steamup. I hesitated at least a microsecond before I exclaimed, "Consider it sold!" Carol agreed , but said it would have to be displayed at their dealer's table during the steamup, then it would be mine. Value-added steamup time was not lost though, as Bob and Carol allowed

me to steam my new loky throughout the weekend.

While at the show, trusty editor friend Ron took photos for Sulphur Springs' magazine ads and proceeded to insist that I put pen to paper (okay, fingers to keyboard) and express my opinions of the Philadelphia. As I finally write this, two months later and some 30,000 feet over Kansas, I must say that my "love at first sight" has not waned.

I was able to steam Philadelphia several times at Diamondhead. The loky's diminutive size makes it ideal for operation on the smaller inner loop of double track that was available, avoiding the usually congested outer loops. Philadelphia pulled my string of American Model Builders (now Saxton) logging skeleton cars and disconnects as well as the compulsory logging caboose with no difficulty. Each time, steam was raised in 3 or 4 minutes, but I was having too much fun to remember how long the runs were. I must note that each run was successful with one rather humorous exception.

I had had several good runs on the Saturday of the event when, inexplicably, the loky refused to stay lit. It wouldn't light from the stack as normal, but would light with the smoke box cover removed. However, the fire would extinguish immediately when the cover was replaced. Bob Paule and I tinkered with it for some time and concluded that there was just no way for the burner exhaust to escape. Bob took the loky aside and discovered that a slip-fit brass tube in the stack had slid completely over the steam exhaust tubing and was, thus, blocking the exhaust from the fire tube.

Bob called Gordon in Australia that evening to explain what had occurred and ask what purpose the brass tube served. A rather embarrassed Gordon recalled that he had been experimenting with the tube to see if he could enhance Philadelphia's steam plume. He had simply forgotten to remove the tube before rushing the loky to Diamondhead. (I think his experiment was successful. The tube does remove the exhausting vapor from the superheated gases of the smoke box. This seems to allow more visible water vapor rather than reheated, and thus invisible, steam to escape.)

Good wife Cindy and I celebrated our tenth anniversary in New Orleans after Diamondhead. I discovered an inexpensive padded camera case in the French market that is perfect for transporting Philadelphia. If it's good enough for a Nikon, surely it must be okay for a loky. The loky's small size and resulting portability will make it my locomotive of choice for distant steamups. The gal at New Orleans airport security wasn't the least surprised that I had a locomotive in a camera case -- it seems she had seen another earlier in the day.

Shortly after returning home to Colorado, Gordon Watson called to ask how things were going with my new acquisition and to advise me that castings simulating the prototype's brakes would be arriving soon. Gordon noted that the prototype was a two-foot gauge sugar cane plantation locomotive built by Baldwin for operation in Queensland in the Australian tropics. The prototype locomotive has been fully restored and is now operational. He also noted that one of his Australian friends had remarked on the locomotives similarity in size and outline to some of the early Maine two-footers (Promises of things to come?).

Baldwin built a large number of similar lokies to a variety of gauges for small operations around the world. Very similar, if not identical locomotives operated throughout North America. Many lumber operations began with small lokies like the Philadelphia, eventually graduating to larger rod locomotives or, more likely, Shays or Climaxes. The smaller lokies often remained in use as lumber yard switchers and the like. Philadelphia will fit right in on any logging operation in any backyard. It will certainly become an important part of my Doe River Lumber Company's operation.

I mentioned earlier that I had failed to note run times while at Diamondhead. Upon my return home, I set up a loop of track on our garage floor just to run the Philadelphia. I again experienced no problems raising steam and achieved runs of between thirteen and a half and fourteen and a half minutes; not too bad for such a small locomotive. One word of caution, however. The Philadelphia's butane tank is not sized to run out of gas prior to using up the water (the boiler capacity is between 110 and 120 ml), so care is required to avoid damage to the boiler's solder joints.

The Philadelphia has good low speed control, but has difficulty with even the slightest grade when throttled back to a slow crawl. The slope of my garage floor was sufficient to periodically cause a stall. Though my Philadelphia has slip eccentric valve gear, I plan to add radio control in the surprisingly spacious bunker. This will allow the throttle to be tweaked to boost locomotive and train over the inevitable grade and around any tight curves.

I've had one more opportunity to steam my Philadelphia. She put on a stellar performance on Marc and Barb Horovitz' patio during a recent meet of the Denver Garden Railway Society's live steam group. I was particularly pleased when this performance received high complements from the Grand Poobah of garden steam. Even more so when Marc noted his disappointment that I had purchased Philadelphia before he had a chance.

It should be clear by now that I am very pleased with Philadelphia. Now I have to take advantage of the brief Colorado spring so that my railroad will have a home.

If You Find Something You Like,
Buy A Lifetime Supply,
Because They Will Stop Making It!

Steaming By

by Tag Gorton

text & photos by the author

Practical and Philosophical Thoughts on Steam Power For Garden Railways

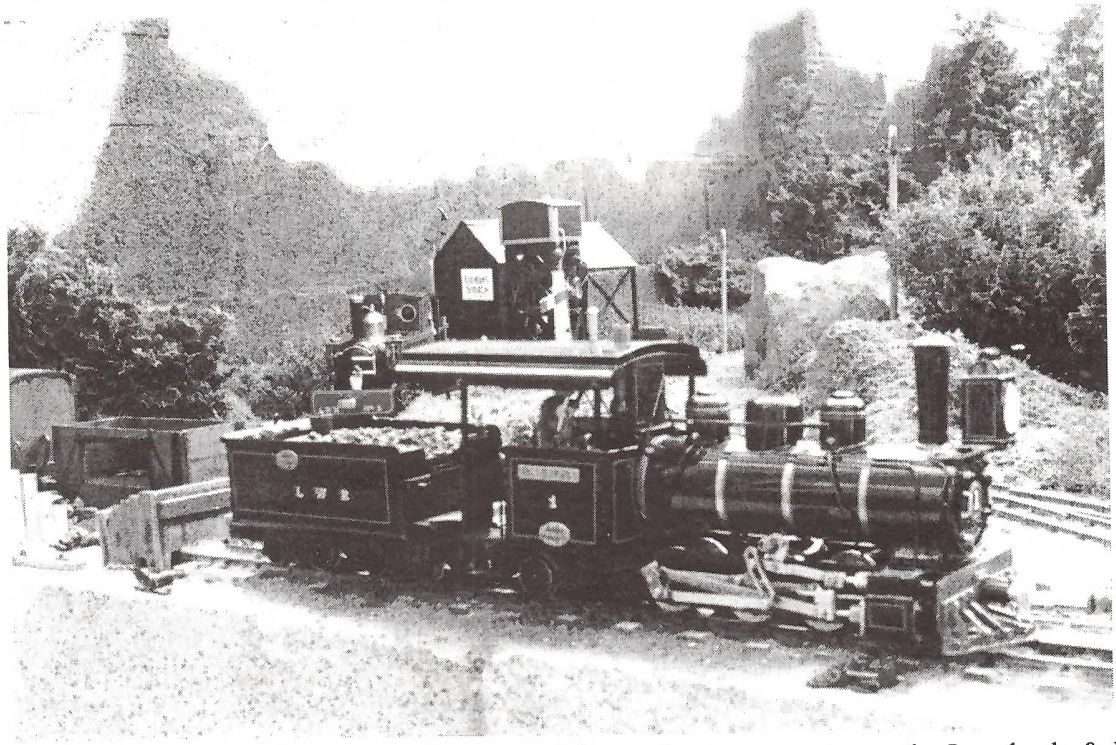
It's a slow, drowsy sort of summer afternoon as we sit by a narrow gauge track in the West of England. The undulating rusty rails, just showing above the encroaching undergrowth, curve progressively away up the bank towards Trematon, a light breeze dappling the sunlight on the track beneath the trees. A gangers hut, disused these many years, is subsiding gently back to nature. Insects hum in the heather and a seagull watches us inquiringly from its perch on an outcrop of Cornish granite.

The unmistakable sound of a steam whistle attracts our attention to a moving column of white steam as a train moves through the distant cutting towards us, its busy chuffing giving a wholly unwarranted impression of speed. There is a low rumbling as the assemblage passes across the iron bridge over the River Lyner and a small, improbably Victorian locomotive hoves into view, all bustling side rods and tall chimney. The engine hunts and lurches over the rarely maintained track, piloting its train of assorted four and eight wheel coaches, all in various liveries and differing states of decrepitude.

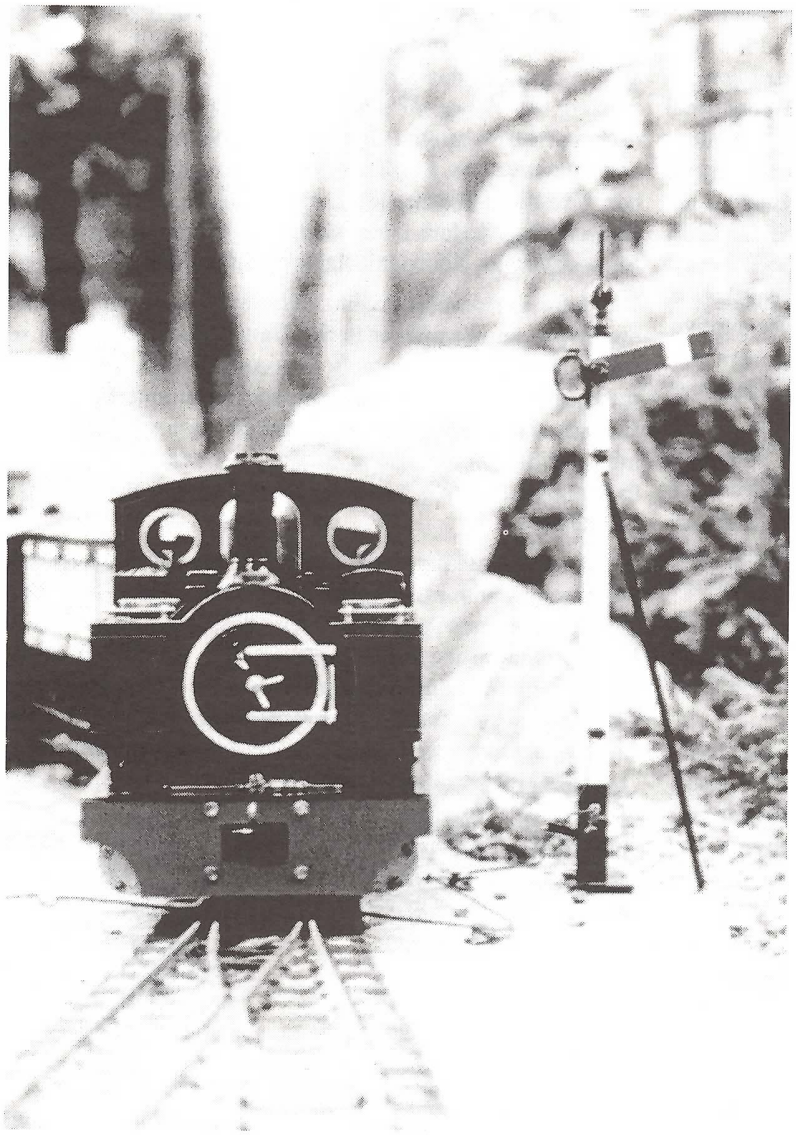
The driver acknowledges our presence with a blip on the whistle, the exhaust sharpens as the regulator is opened for the assault on Trematon bank and the entourage of passenger stock grumbles past, jolting and swaying over the rail joints. A lone passenger peers disinterestedly at our little group from the faded and dusty red plush of a first class compartment as the string of vehicles follow the fussy green locomotive up the tree lined permanent way to Trematon. The landscape reverts to its summer Sunday stillness as the evocative sound of the train dwindles into the distance.

An arcadian moment, taken not from a fading memory of Cornish yesteryear, but from a recent local meeting at the Longlands and Western Railway in my small back garden, the loco my elderly and much modified Merlin Mayflower with steam whistle. The dream, for those of us who like to conduct our ferrinequinology on narrow gauge rails, tends to be similar. We are fascinated with the possibility of having our own real live steam locomotive, working a train through living scenery.

A model railroad magazine published in the United Kingdom declares itself dedicated to the average railway modeler - and I can feel comfortable with that. If there is such a thing as an average garden steam railway man, then it's probably me. I'm not any sort of model engineer, but I can find my way round a steam locomotive and generally get a



LORD ELPUS, a Roundhouse Fowler, briefly a part of the motive power roster on the Longlands & Western Railway and a fine running engine, but it wasn't right for a Cornish narrow gauge railway and thus it had to go.



A Pearse Locomotive Works GENESIS pauses at the junction on George Mckie's Plymstock and Hooe Light Railway.

recalcitrant example to run. My rolling stock, both kit built and home made, is acceptable and the Longlands & Western Railway, though small, has given much pleasure to myself and local members of the l6mm Association.

It is at this juncture, with the recent arrival of new motive power for the LWR (thus bringing the running roster up to five locomotives), that I should like to look at what we expect from our steam engines. I had found, when venturing into the small scale steam market for the first time some nine years ago, that nothing available at the time provided me with exactly what I wanted. I'm including in that comment some of the then more expensive examples of steam motive power. For instance, the largest manufacturer of locos did not provide steam whistles. Not important, one might think, but for me, an essential part of locomotive working. Other engines had full rivet detail but looked very naked below the running plate without crosshead, slide bars and valve gear. I learned at first to compromise, and then to modify to get what I wanted.

Our steam dragons are, like their prototypes, individuals with their own quirks and foibles, far removed from the soulless plastic efficiency of the large scale model train manufacturers. They reward the minor effort to understand them by providing, not a toy engine for a miniature railway, but the real thing, albeit writ small. However, and it's a big however, this uniqueness is not any sort of excuse for poor quality control, erratic response to customer queries or lack of logistical backup. These locomotives are expensive and we are entitled to expect a professional approach to our problems. Thankfully, in the United Kingdom nowadays, problems with suppliers are rare. Many of the smaller builders sell their products through Brandbright, etc. . . and certainly if purchasing from a foreign country it makes sense to deal with a local agent. When I acquired my first locomotive I felt much on my own in the West Country and therefore more dependent than most on the vendor. I purchased that engine from Brandbright and have cause to be grateful for the honest advice and guidance dispensed by Mr. Longley. I still source the majority of my requirements from this excellent organisation.

Locomotives and their documentation have improved since then. One can be sure of getting a reliable model (or at least prompt attention if there is a problem), and I may say that (after a quick flip through) I have dealt satisfactorily with every UK supplier advertising in SitG!

Perhaps the most basic choice open to prospective purchasers is that between radio control and manual operation. For me, coming as I did from an interest in indoor model railways, it seemed no contest. Engines that ran without some form of remote control seemed to hark back to a dark clockwork past. Nine years on, my opinions have altered somewhat. For much of the time I'm a train watcher, the radio control is off, the train is circuiting the railway at a scale speed and the radio is only utilised for station stops or shunting the yard. One has to ask, more particularly when cost is an important factor, whether remote control is necessary or even desirable. I would here say that an alcohol fired Roundhouse "Lady Anne" (including of course the Geoffbuilt "Scorpion" for those of a transatlantic persuasion) is perhaps the most relaxing locomotive that I have ever operated. The "Lady Anne" or "Scorpion" type potboiler is simple. It is easy to use and has no particular prototype. It may not be the "state of the art" locomotive of one's dreams, but these engines, when running in a garden environment, capture the ethos of our prototype narrow gauge steam railways on their respective sides of the Atlantic.

Many people have an affection for, or are keen on possessing a model of, a particular prototype and pursue this dream without regard to operating conditions or consideration

of what is required from their garden railway. While it's fairly obvious that a model of the "Daylight Limited" with a full consist would be difficult to fit into a small backyard, it may not be immediately apparent that a highly detailed, coal fired miniature of a small boilered prototype, requiring attention every few minutes, would not suit someone who likes to lay in a recliner with a radio control! For those like myself, of an indolent nature, a machine that will run for at least half an hour without attention would be a more suitable purchase. It may be that ones primary modelling purpose is to emulate a particular line or company, and if this necessitates a locomotive that requires much attention whilst running then so be it. Be prepared however, for the dichotomy between the dream and hard practicality. It may be found that more and more, rather than face the hassle of preparing and running ones pride and joy, a battery powered d**sel will handle most of your traffic!

My first prototype locomotive was a semi scale Roundhouse "Fowler" complete with tender. No problems with running here! "Lord Elpus" was an excellent and pleasant to use locomotive but, dazzled by the thought of a large tender engine, I was blind to the fact that a large plantation type machine looked daft on my bucolic Cornish narrow gauge branch line. It had, regretfully, to go.

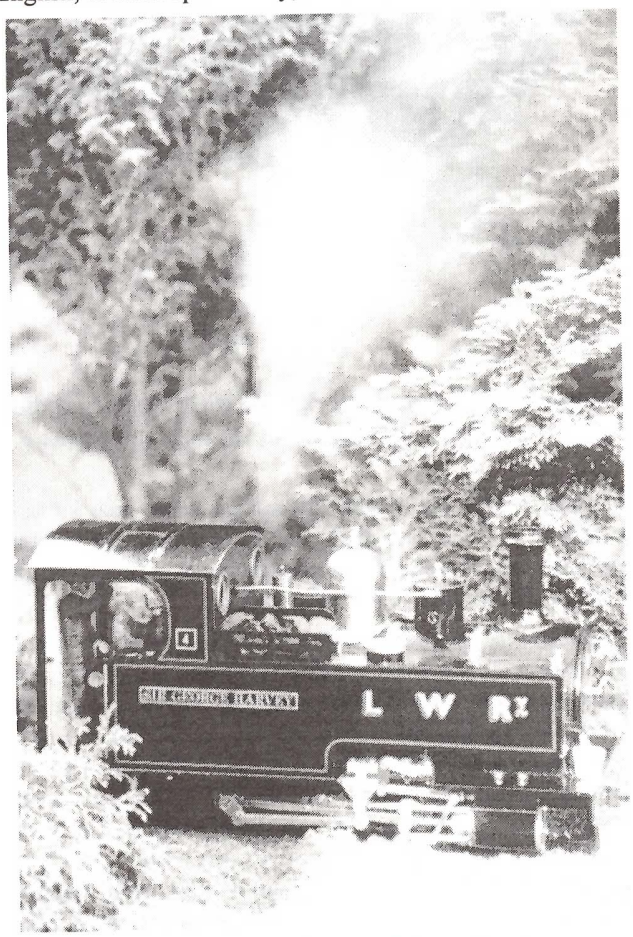
The free-lance replacement was one of the rare Merlin Meteors, a large boilered 0-6-0 conceived during Ian Pearse's very short period with Merlin, and devised specifically for long running and uncomplicated servicing. This locomotive has since been modified by the addition of a steam stop valve and boiler fill system to enable continuous running. I have also fitted Pearse cylinder back plates, slide bars, crosshead, drop link and combination lever, all of which look very attractive when running. The standard LWR "chuff pipe" has been added to improve both steam plume and steam sound.

I have in recent months taken delivery of my second model of a real prototype - a Welshpool and Llanfair "Countess" from Pearse Locomotives (see review in SitG Vol. 4, № 1). This large engine is one of the few that combines a high level of detail with ease of use, the only notable compromise being the cab layout, where the internal bunker on the prototype restricts space for 12 inches to the foot fingers. I hasten to say that this is only a comparative comment. There is adequate space for driver, fireman and fingers. The difference is that the free-lance cab can be ergonomically designed for usability, while the scale model demands that accuracy is a priority.

The Longlands & Western Railway is an all steam line. There are no "standby" diesels to "fill the gap" or rescue a failed steamer (hush my mouth!). However, it is nice to have something ready to run during an afternoon's steaming, and the "Countess" or "Meteor" is kept continuously in steam in Longlands station yard, simmering gently with the burner turned right down. I may occasionally pick up the radio, bleep the whistle and trundle slowly up the yard. The "show-off" in me will perhaps give a melodic blast on the whistle if I hear visitors arriving and there isn't a train performing on the main line, otherwise the station "Pilot" sits quietly awaiting a call to duty. These well designed locomotives have, since their arrival, had more use than the others put together because they are easy to service and able to remain in steam continuously! This avoids the "I have steam up and must run NOW!" syndrome, and helps make this aspect of my hobby a pleasurable and relaxing experience. This is, for me, the biggest single factor in choosing a locomotive. If it's awkward to use, then no matter how attractive it is, it will tend to stay in its display cabinet or box. I've learnt this through hard experience, and I now think long and hard before undertaking any sort of change in my locomotive stud, more particularly if a scale model is envisaged.

There are several highly detailed models of suitable prototypes on the market in the United Kingdom, many of which would fit comfortably into my Cornish branch line scenario. However, few of them match my parameters of price and more importantly, user friendliness. For instance, I find it indefensible that on some locomotives costing over one thousand pounds, it is necessary to remove the safety valve to fill the boiler!

There I go talking smugly of the plethora of British steam locomotives, both prototypical and generic, and I forget that until fairly recently American designs were almost nonexistent, U.S. steam modellers "making do" with British or "Americanised" English designs. Now I enjoy and appreciate American steam but, being a Brit, prefer my line to have English, or more specifically, Cornish antecedents. Parochial,



SIR GEORGE HARVEY, one of the author's customized Merlin's, lets off a little steam on the Longlands & Western Railway.

I know, but then most of us are when it comes to our railways.

The balance, however, is changing with Argyle, Maxwell Hemmens and Wrightscale all producing models of American prototypes. Everyone has seen the impressive Roundhouse "Sandy River", of course, and Aster produce their C&S Mogul for the financially adroit. Generic U.S. locos are also available from the aforementioned Geoffbuilt of Canada, and Berkeley Locomotive Works can provide a well engineered budget engine in the form of the inexpensive and chirrupful "Cricket Steam Motor".

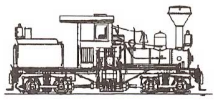
We all have our preferences of course, and if a model of a real American prototype was required I would check out Catatonk (Where did that name come from?) *(It is the name of a locale in upstate New York where logging and lumbering are still taking place, and it is an Iroquois Indian word meaning "The place where the rocks are piled up." -- ed.)* Locomotive Works for their 14-ton Shay. This would appear to be a very keenly priced, high spec prototype model which meets my personal parameters of specification and cost. Running characteristics and usability are currently not known and I look forward to seeing a review of this engine. *(Coming soon! -- ed.)*

On the generic, or free-lance front, Pearse Locomotives are now moving into the American market with "Colorado", a competitively priced, radio controlled 2-6-0 inside framed tender locomotive. *(Also scheduled for review this summer. -- ed.)* This is not a modified British design but a generic Yankee from the track up, designed for ease of use and relaxing running. Price-wise, this should compare very well with an Americanised Roundhouse Fowler. If I wanted a tractable locomotive without radio control, then I would certainly be heading north for the products of Geoff Coldrick. The Geoffbuilt Shay-type locomotive, advertised in SitG at a quoted price of $1,100.00, would definitely be on my list for investigation.

I would stress that the above opinions reflect my prejudices, my experience, my pocket book and, to an extent, my abilities. I lean towards comfortable-to-run and probably free-lance motive power that, within the framework of my Longlands & Western Railway, helps me to capture the spirit and style of the narrow gauge branch. Local friend and professional model maker Paul Fletcher has a Wrightscale Quarry Hunslet. This locomotive is a minor masterpiece of miniature steam engineering and Paul can accept the limited run time of around 10-15 minutes for the pleasure of owning such a highly detailed model. My preference for regular running would suggest that the Finescale slip eccentric version, with a duration of 30 minutes to infinity, would be a more suitable personal choice (You can't see the underbody rivets whilst the loco is steaming by). Those of you who, like Paul, delight in diminutive showcase standard models that actually work, would do well to look at the Wrightscale Porter.

And finally.....I've found running small steam trains in the garden to be a highly sociable activity, whether it's a couple of friends pottering along the line and sharing ideas on a summer evening, or a full blown garden meeting, with visitors travelling many miles to attend. The pooling of ideas and the sharing of problems enhance ones railroading activities considerably. It's worth mentioning that someone else's garden is also a good place to see if that dream locomotive seen in the magazine lives up to ones perception. I remember sitting in the garden drinking tea with a fellow member of the 16mm Association at the end of a busy meeting a couple of years ago. We were watching the last train of the day tackle Trematon bank with a heavy mixed train, its steam plume making a fine show in the cooling evening air, the tail light flickering in the gathering dusk, the sound of the exhaust beat combining with the tinkling of the couplings and the rattling of the stock. As the engine disappeared into Trematon tunnel John said, "I don't think I'll ever get fed up with this."

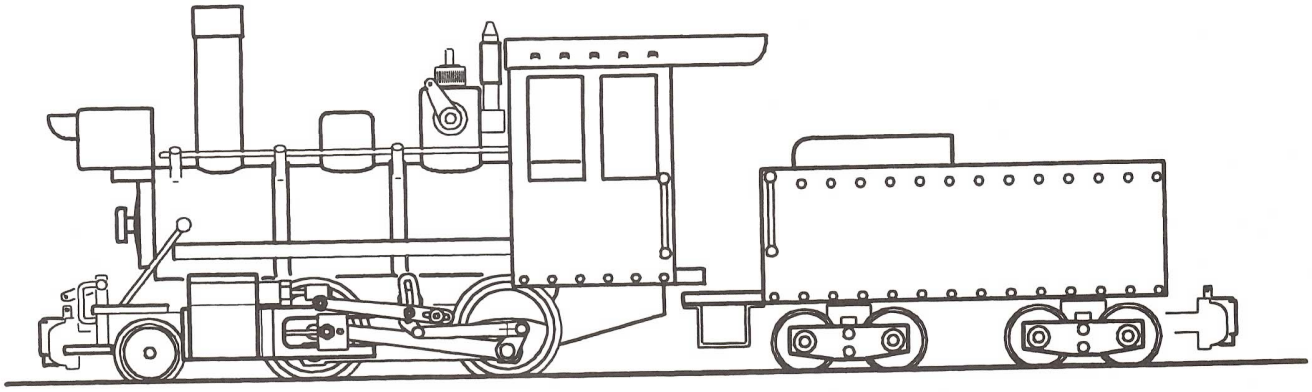
I knew exactly what he meant.



Steam Scene...along the rails

Photos inside front cover by Tag Gorton

Top & bottom photos were both taken on George McKie's Plymstock & Hooe Light Railway, a very new line in Plymouth, England. The lower photo shows George's kit built and modified Roundhouse Lady Anne, "JAQUELINE".



Build Your Own Locomotive

Part VII of a series

text and drawings by Charlie Mynhier

Charlie tackles the wheels & axles

Let's talk about wheels. These wheels will not have spokes, and they will be easy to quarter. This should be good news to first time wheel makers.

The driving wheel axles and crank pins will be made from 1/4" diameter Grade 0-1 drill rod. These rods can be purchased in 36" lengths from most tooling supply houses. The drive wheel axles will be 1-1/4" long, and you will need two.

The wheel centers will be made from 1018 cold finished steel. Try to find a short length of 1-3/8" dia. so that you will not have to turn the O.D. Notice the different size counter weights, the heavy counter weight is used on the wheel where the crank rod, fly crank and valve rod connect.

Let me suggest that you use a letter "C" drill for the axle hole, and follow it with a .250" dia. reamer. For the crank pin hole use the "C" drill and follow it with a .249" dia. reamer for a good press fit.

We don't want a press fit for the axle - we will use an 8-32 x 1/4" long socket head set screw to lock the wheels onto the axle after adjusting for proper gauge.

The crankpins should be hardened before pressing them into the wheel centers. Heat them with a torch until they are the color of straw, then quench them in oil. If you have a wife, clean all the oil off with alcohol *(no, not your wife -- the crankpins!)*, and then bake them in the oven at 400 degrees for 1 hour. If you don't have a wife, don't worry about the oil -- it will burn off, and will leave a nice aroma in the kitchen. Whatever you do, don't forget this tempering step -- **this is very important**.

The exact size and shape of the counter weights is not important. I made a fixture and turned them on my 10" lathe...that is the reason for the 2.000" and 2.187" radius.

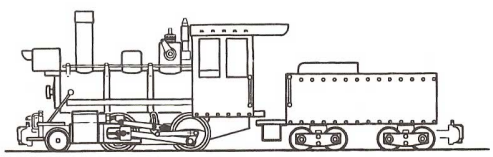
The axle for the leading truck is made from 3/16" dia. drill rod, 2-1/16" long. The wheels are pressed on using the same technique as the crank pins, or you could use LOCTITE™.

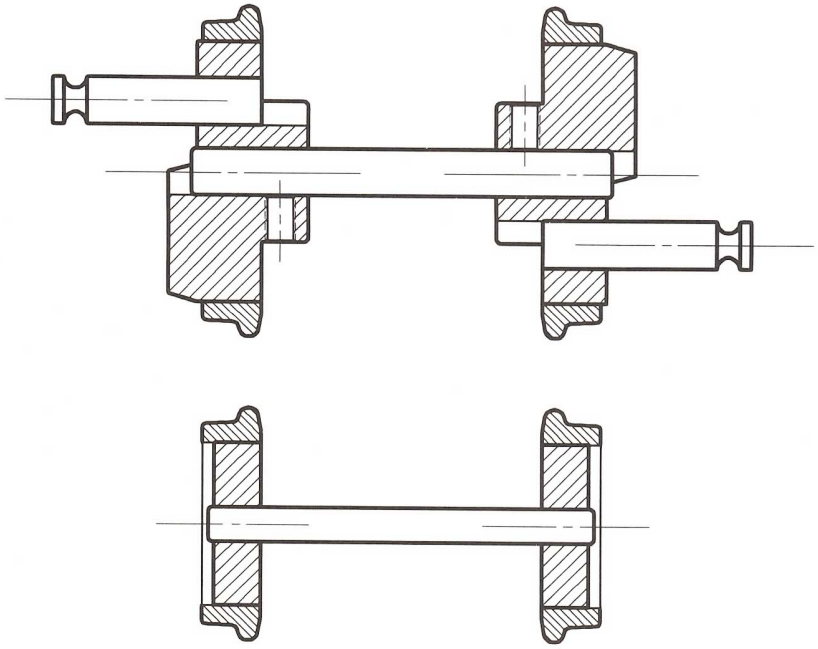
The tires were turned from stainless steel for a .003" to .004" press fit. The centers were bead blasted and blackened with chemicals before pressing the tires on.

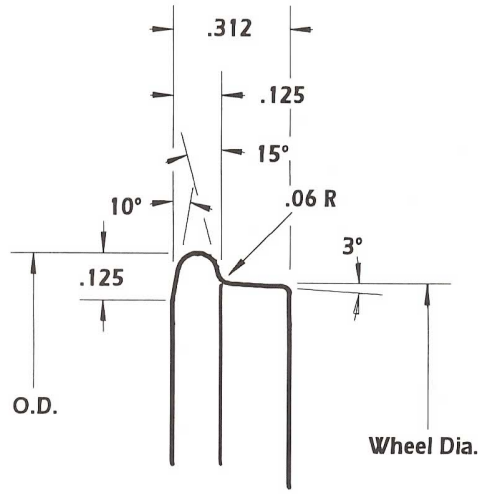
That's enough talking for now...it's time to go build some wheels!

ERRATA

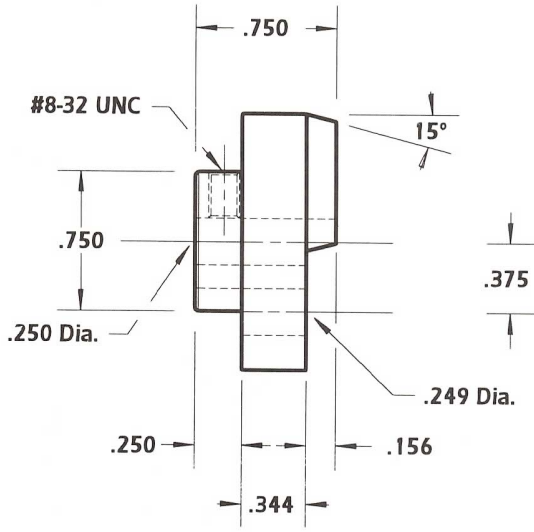
In the May/June '95 issue of SitG we talked about cylinders. There was a mistake in the number given for the O-ring for the piston; the correct number is #109.

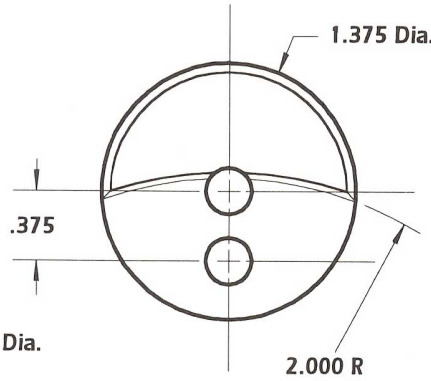


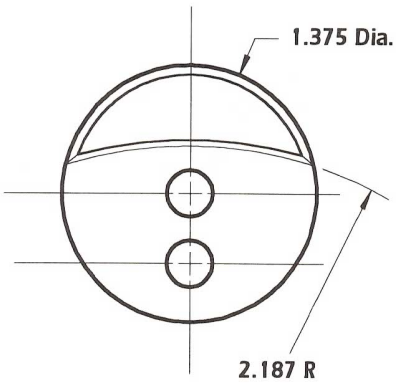


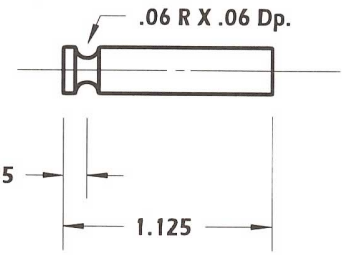


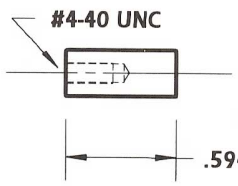
Flange Detail

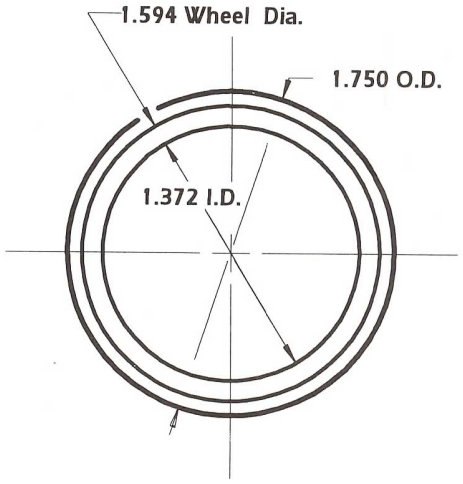


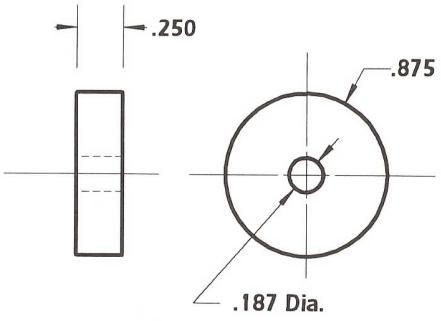


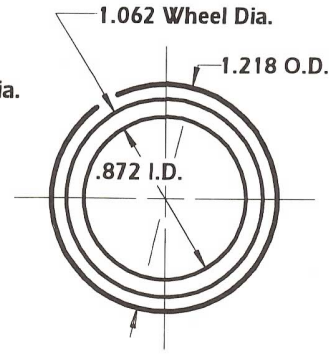


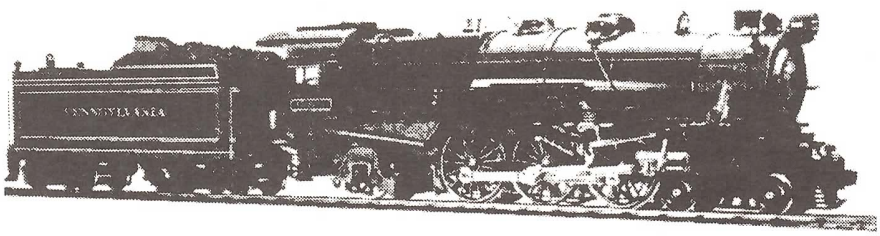












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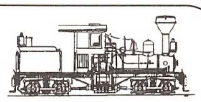

Good news for those of you who have been waiting patiently for word on the Catatonk Shay. Some of you saw the pilot model at Diamondhead and were pleased with what you saw. The first production models are on their way from Australia as this is written, and they are even better than the pilot model. We hope to have photos available for the next issue, and will be contacting everyone on the reservation list with more info soon. Thanks for your patience!

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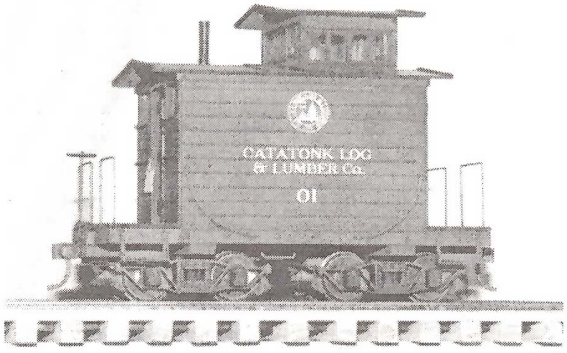

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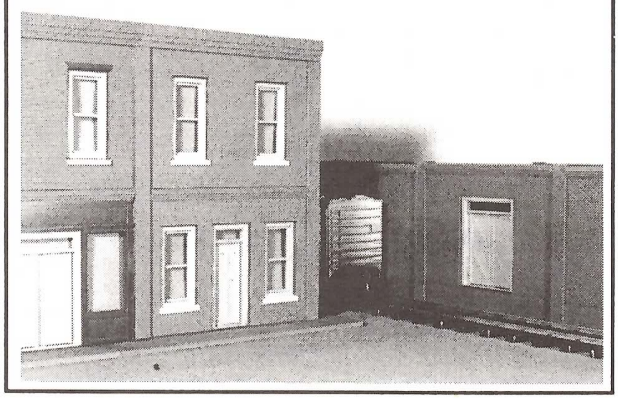

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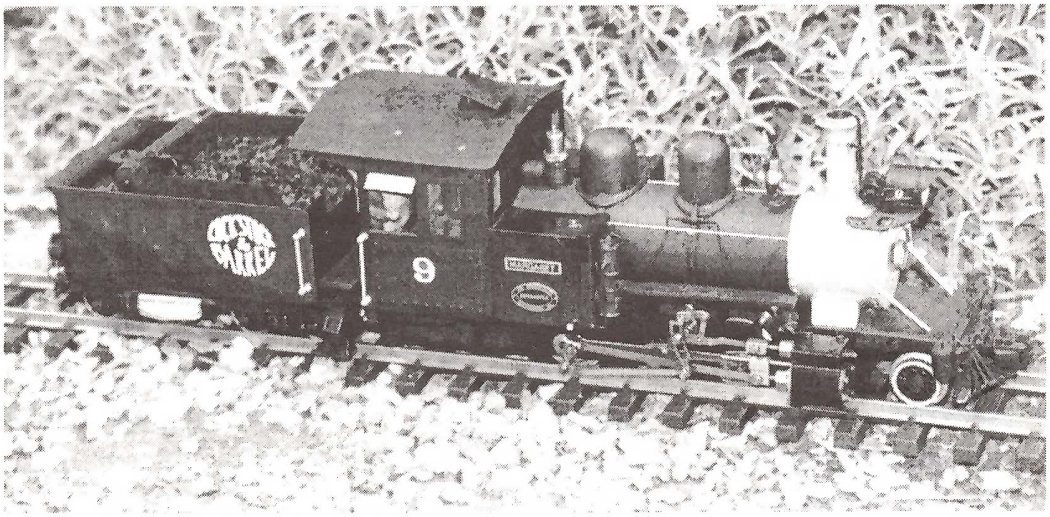
Americanizing the Lady

Part I of a Series by Don Beach

drawings from Don's original sketches by Harry Wade

Don Beach shows us how he turned his very British Roundhouse Lady Anne into a very convincing American 2-6-0 shortline locomotive

Like just about everyone else, garden railroading entered my life with the introduction of large scale electric trains. The trains looked great and there was much that could be done with them in the garden...BUT...they were still electric trains. What I really wanted was LIVE STEAM. When I began looking around I found there were very few choices when it came to Live Steamers in an American profile. The British, on the other hand, had a wide choice of models in live steam to run on their lines. So, as many had done before me, I decided to "have a go" at live steam with a British flavour.



I knew from the start that I was going to have a problem with a British loco at the head of my American rolling stock, so I ordered an all black Roundhouse "Lady Anne" complete with gas firing and radio. Surely an all black paint job would disguise the Lady enough to pass as an American short line loco. When she arrived I found that she was a marvel - Roundhouse sure has the right formula for small scale live steam! One of the first changes I made to her was the addition of name plates on the tanks proclaiming to the world that she was MARGARET, queen of the rails! Over the next few months additional changes were made to Margaret's appearance, but she still didn't make a convincing American short line loco. I tried to hide her under a second dome, a headlight, and a bell. Somehow these changes didn't seem to make her any more American looking. Then it hit me - I needed to put a proper cowcatcher on her!

A cowcatcher was quickly ordered from Brandbright and as soon as it arrived it was grafted onto Margaret's front end. At last all seemed at peace on the Lockstock and Barrel. Then one day a British friend came by, "What's that?" he asked, looking at my pride and joy. Upon closer inspection I could see just what he meant. The Lady had grown into just a "bit of a tart"- all dressed up but who would want to be seen with her? Back to the shops for a long hard look at my creation!

In order to make convincing changes to a Lady Anne, I could see that I would have to do more than hang extra bits and pieces onto her. The basic loco needed to have anything that was not American looking removed, and things that would make her look more American added. The Roundhouse Lady Anne is built to "feel" right with a number of scales, but she is built to 16mm primarily (1:19 scale). Her cab roof is too high for most of the American narrow gauge stock we build or buy. She also has round windows, doors in the sides of the cab, a single brass dome, no tender, and large tanks on her sides.

I spent a lot of time researching American tank engines before I decided to go with a tender design for my conversion. The conversion really turned out to be a "cut and paste" project. I removed parts from the cab and water tanks with a jeweler's saw and then added detail parts that are more American in design. The one major difference that I could not change was the inside frame wheel arrangement. I like to see the wheels going around. The frame could be changed, but it would take much more work and time than I felt the change would be worth.

When Ron Brown asked me to write about my conversion I thought to myself, "How? I just did things as they came to me, I didn't take notes. Upon reflection though, I believe that if you aren't too upset with the idea of cutting into your own loco, then I'm willing to give you the basic guidelines to make

your own conversion. This conversion takes several steps to complete. I worked on the loco while waiting for the tender kit to be delivered. The work can be divided up roughly along these lines: changes to the cab, pilot and cowcatcher, detail work, tender modifications and radio installation. Basic hand tools are all that anyone would need to carry out most of the work. I think that for those of you who have a Roundhouse Dylan this conversion will work for you as well. A Dylan might even be a bit easier as the water tanks are already shortened for you.

SOURCES FOR TOOLS AND PARTS USED IN THIS CONSTRUCTION SERIES

JEWELER'S SAW

File block and clamp	522-7509	$6.50
6" jeweler's adjustable saw frame	520-4060	$15.60
#1 saw blades	520-7055	$2.65 / doz.

Available from: Sax Arts & Crafts
P.O. Box 51710
New Berlin, WI 53151

24hour order phone:
1-800-558-6696

TRACKSIDE DETAILS PARTS LIST

TD-69	Tender Steps
TD-12	Golden Glow Headlight
TD-19	Number Plate
TD-34	3 Chime Whistle
TD-21	Handrail & Flag Holders
TD-10	Bell
TD-4	Rerail Frogs
TD-11	Generator
TD-27	Headlight Bracket
TD-22	Coupler Lift Bar Brackets

Available from: Trackside Details
1331 Avalon
San Luis Obispo, CA 93405

ROUNDHOUSE PARTS

351	Brass Steam Dome
279	Boiler Clamp
281	Dome Clip
507	Westinghouse pump
712	Fowler Tender Kit
???	Sandy River #24 Cowcatcher

Available from: Any Roundhouse Dealer

PHOENIX FIGURES

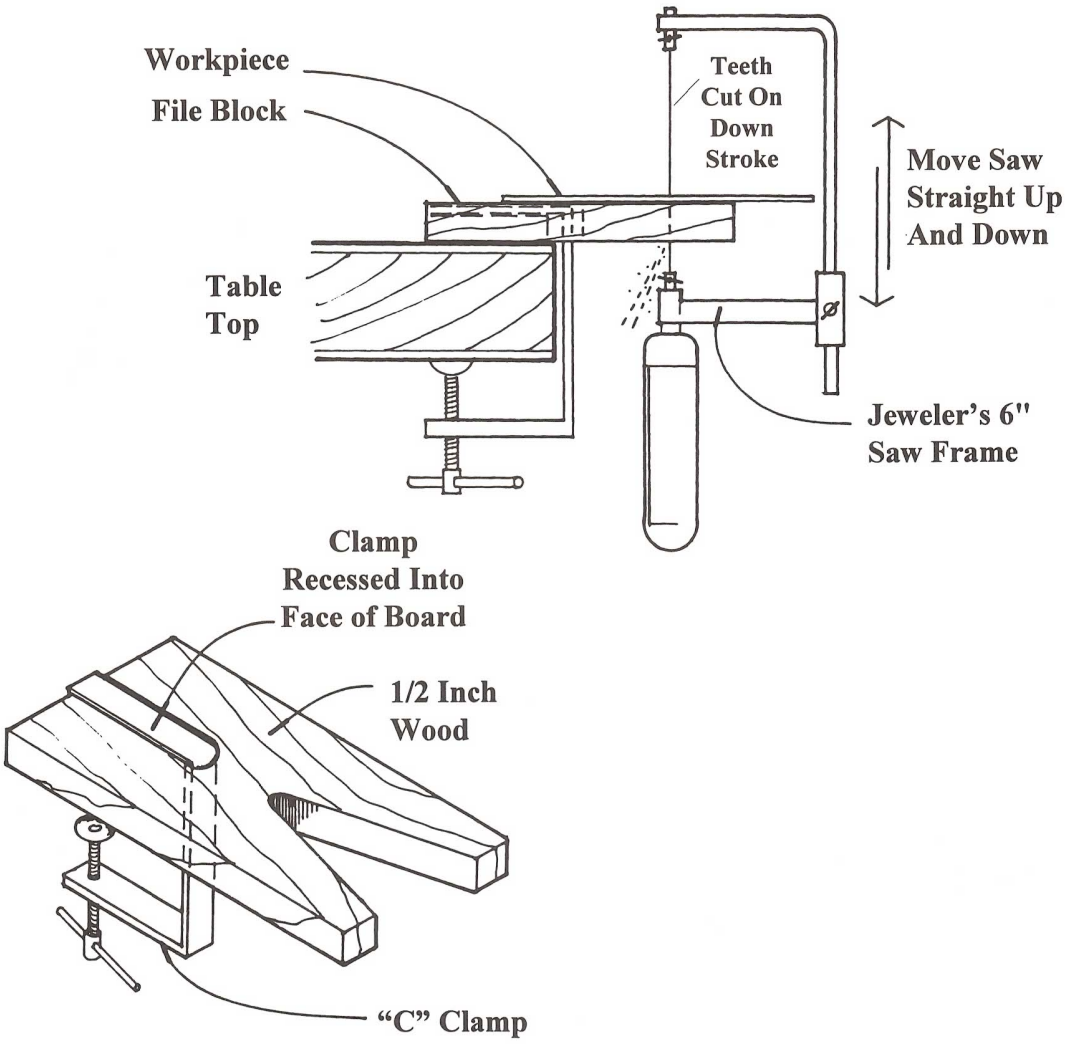
PFG 02 Engineer
PFG 03 Fireman

Available from: Brandbright

How To Use A Jeweler's Saw

by Don Beach

Useful Skills for Loco Bashers & Hackers



A jeweler's saw and file block are in essence a hand powered jig saw and table. The use of a file block and clamp is essential. The blade is put into the saw frame with the teeth pointing DOWN so that the cut is made on the down stroke of the saw. The blade should be tightened enough so that a "PING" is heard when the blade is plucked with your finger. The workpiece being cut is held firmly against the block and moved through the cutting action of the saw. DO NOT move the saw into the work -- move the work into the saw. The saw blade should remain in the back of the file block's "V" groove and the stroke of the saw should be in a straight-up-and-down sawing motion.

When the saw is used to cut work that cannot be placed on the file block, be very careful to not bend the blade or try to force the cut. The work piece should be held firmly in a vise or "C" clamped to the work-bench. KEEP A LARGE SUPPLY OF EXTRA BLADES ON HAND!

Product Review -- Del-Aire's Pneumatic Point Control System

review & photos by Rich Chiodo

The quest for the perfect turnout (switch or point) control system has been going on since the very beginning of model railroading. Fingers, levers, rods, string and weights, choke cables, solenoids, magnets, motors and other methods, I'm sure, have graced many "plywood dragons". **Del-Aire Products,** a Pennsylvania based firm, has reintroduced a pneumatic system which, to read their copy, has been around for quite some time. The intriguing aspect of air operation is the elimination of electrics, which from my point of view fits well with small-scale live steam in the garden.

Quoting from the Del-Aire literature, "Pneumatic control is not new to model railroading. The initial design was developed and marketed by Raymark in the early fifties. The second generation came under the name Carnal and was marketed as High Power until sold in 1967. This begins the third generation under the current name of **Del-Aire Products**".

The line has been updated with "state-of-the-art advances in pneumatics." Since I have no experience with the old products my reference will be in relation to electric or manual control, into both of which I have more insight than I care to discuss.

Let's first tour the product line and review the specs. The company provides fairly complete descriptions and photos of the various components in its literature. I found I had to read through the material a couple of times to understand what does what , where and why. The system is divided into 5 parts: air supply, air supply control, adapters and couplers, system controls and distribution and air motors.

AIR SUPPLY

Two methods are provided to supply compressed air to power the system; an air reservoir (tank) or aerosol gas canisters exactly like those available to power your airbrush. The tank has a nine gallon capacity and can be charged to 125 lbs., thus giving a claimed "many operation" capacity at the recommended pressure of 40 psi. The aerosol cans are a convenient way to supply compressed gas for those who wish to control a few turnouts for a modest sized railroad. Frankly, if you are going to the trouble of installing the system the extra dollars spent on the tank will be imperceptible; especially after you go through a few cans of propellent.

I am surprised that adapters and fittings are not offered to power the system off a spare tire, compressor, etc. It could just be my ignorance of the fittings, as this could very well be possible with those bits and pieces offered. Maybe a note in the instructions on various other ways to provide compressed air would be helpful.

AIR SUPPLY CONTROL

The "air motors" are designed to operate optimally at 40 psi. They will operate more slowly at lower pressures all the way down to 20 psi. The longer the tubing run, the more sensitive operation will be to air pressure (since you are compressing the air in the tube also, which can become consider-

Bits & Pieces -- Back row: regulator & brackets, gauge, quick-connect coupling, manifold and toggle. Front row: indicator, slo-motion control, air motors, mounting hardware, caps, tees, plugs & reducers.

able over long distances and multiple runs).

Air supply control consists of a regulator for the propellent cans or a regulator for use with the air tank, a 0-60 psi pressure gauge and mounting hardware. All these pieces seem well built for light industrial use and should provide excellent service for our use. Directions for integrating these pieces into a system are reasonably clear and describe how various adapters should be hooked up.

One item I didn't see was a water trap or air dryer. If you have had any experience with compressed air, you know that upon its expansion considerable water vapor will condense out, thus creating all sorts of problems...just like in your air brush. The propellent cans should not have these problems since the inert gas is "dry". The trap or dryer does just that; it traps water before it gets down line to cause problems. I believe these are available at outlets that deal in air tools or industrial supplies.

ADAPTERS & COUPLERS

Del-Aire's thread standard is 1/8"-27 NPT. Common (hardware store) thread standards are 1/4"-NPT. The tubing used to connect up the system is 1/16" ID, high grade plastic tubing (vinyl, I believe). Tubing connections are by 1/16" slip-on barbed connectors.

All this means that a variety of adapters and couplings are needed to account for various air supply hookups and tubing configurations.

Some fittings are metal and require Teflon plumbing tape (hardware store) for a sealed fit. Most fittings are glass filled nylon and do not require the tape.

SYSTEM CONTROLS and DISTRIBUTION

OK, so we have an air supply, a way of regulating it and a way of connecting and adapting fittings and tubing. Next are the controls: on-off, slo-motion, manifolds (one in-many out), and an indicator.

The switch or "air-toggle", as Del-Aire calls it, turns the air pressure on or off to a specific "air motor" or turnout control. This is directly analogous to the push button or switch control to your solenoid or motor in an electrical system. A subtle difference is that the air is "one-way", in that it "sets" the air motor in one direction. Upon release of air pressure a spring in the motor "resets" the turnout. A nifty accessory device is a slow motion valve that slows the action of the air motor giving realistic point motion.

Manifolds can be thought of as terminal strips for air distribution, i.e. one tube (wire) in, many tubes (wires) out. There are two of these offered that provide either 4 or 8 "outputs". One very important bit is the "barb cap" which caps unused outputs. Missing just one of these or having one loose or poorly seated will degrade or render the system inoperable. This could be a weak link in the system, though I experienced no problems. As I mentioned, any leaks degrade performance and can quickly deplete the air supply.

An indicator is offered and is kinda neat. It displays green in the "relaxed" position and red "under pressure" (don't we all?).

All of the air-toggles, regulators, gauges and indicators can be panel mounted in much the same fashion as typical electrical parts. Panel mounting hardware is usually included, though things like the regulator and gauge may require additional pieces.

AIR MOTORS

Air motors are the "switch machines" of the system. They are air powered in one direction and spring operated to return after air pressure is released. The motor is 1.25 inches long and 7/16 inches in diameter. At the recommended operating pressure of 40 psi the device delivers an advertised 2.5 pounds of force. The spring return delivers 3 pounds of force. The motor is constructed of brass and stainless steel with replaceable "O" ring seals. Throw distances are offered in 3 steps (N, TT, HOn3 -- HO, OO, Sn3 -- S, On3, O, G). Recommended operating pressure for N scale and probably fine scale handlaid track is 20 pounds. Nothin' like seein' that handlaid three way triple slip turn into a jumble of twisted rail, spikes and ties!

The motors come with mounting clips, bellcranks and hardware to accommodate a wide variety of mounting possibilities. The recommended mounting has the turnout "resting" in its most used position... .i.e., mainline. The output rod can be easily bent to accommodate any throw bar configuration. Use of brass, stainless steel, and O-ring seals makes the units a reasonable bet for outdoor use.

THE TEST

I wanted to give the system as much of a real life test as possible. With Mother Nature cooperating by cooking up one of the worst Winter/Spring seasons on record here in New England, I mounted one of the air motors to an LGB 1600 series turnout, plugged the air inlet and left the assembly on the ground and out in the weather for the better part of 10 weeks during early Spring. Since this dormant condition is typical up here for about six months of the year, I thought this period of time would give a fair test to the most critical part of the system....the thing that does the work and is likely to spend its garden railroad life on the ground in the great outdoors.

The air motor experienced snow, ice, freezing rain, hail (gumball size), snow melt, flood, about two dozen freeze-thaw cycles and temperatures as low as 0° F and as high as 65° F. A Summer test is underway where temperatures can reach 100° F.....why do I live here, anyway?

I chose to power my test system using a 5 gallon air tank. The tank is normally charged to 100 pounds or so at my local service station. I have an air dryer on my tank but removed it for my tests since no mention was made as to needing one (see my previous comments). I used the quick disconnect coupling, regulator and pressure gauge to supply air at 40 psi to a 4-output manifold. Two of the manifold outputs were plugged, while the other two powered a normal air toggle and a slo-motion air toggle. I deployed about 50 feet of tubing and hooked up the stress-tested air motor/turnout and a new air motor (also hooked to an LGB turnout).

All this went together in about an hour, which is about

the time it would take me to strip and solder wires to an under-table mounted switch machine... but that's just me, your mileage may vary.

Connecting the motor to the turnout requires the turnout be mounted to a board, at least under the throw-bar. This gives a surface to mount the motor clip and the motor. Adjustment is easy since the throw stops are not "hard" but sprung in one direction and pneumatic in the other. This IS NOT as difficult as getting a latching switch machine aligned.

I did not mount the toggles, manifold or regulator/pressure gauge to a panel or in a box. I would advise you do this in a permanent installation since it would protect the air lines and connections and greatly reduce the mad scientist effect.

So, how does it work? As advertised. I measured the air "force" with a spring scale at 2 lbs and the return spring "force" at 2.75 lbs with a small spring lab scale I have. Plenty of oomph for the most reluctant of turnouts. This brings up a word of caution. The motor running on say 60 lbs. of air could cause points to flex and possibly distort the stock rails out of gauge. Not a problem with LGB's elephant proof track, but it could be with your code 200 aluminum rail scratch built point system.

The "weathered" motor performed just like the "new" one. I cycled each about 200 times with no change in performance and very little air used, about 5 lbs. I left the system "on", both motors toggled on air, for 7 days with no perceptible air loss. I reduced the air pressure to 20 lbs and noticed a slower response time and somewhat weaker air "force" of about .75 lbs. I would operate my system at 30 pounds which would seem to put less wear and tear on the trackwork, and would save air.

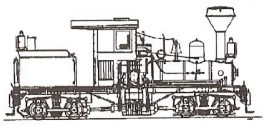
The slo-motion control is neat. It is a needle valve adapter for the air toggle which will slow down the motion a little... or a lot. A lot being seconds, depending on the air pressure. I actually think this device is more useful for controlling semaphores, crossing gates, lift bridges or other animation, if that's your thing. Anyway, it does what it's supposed to do.

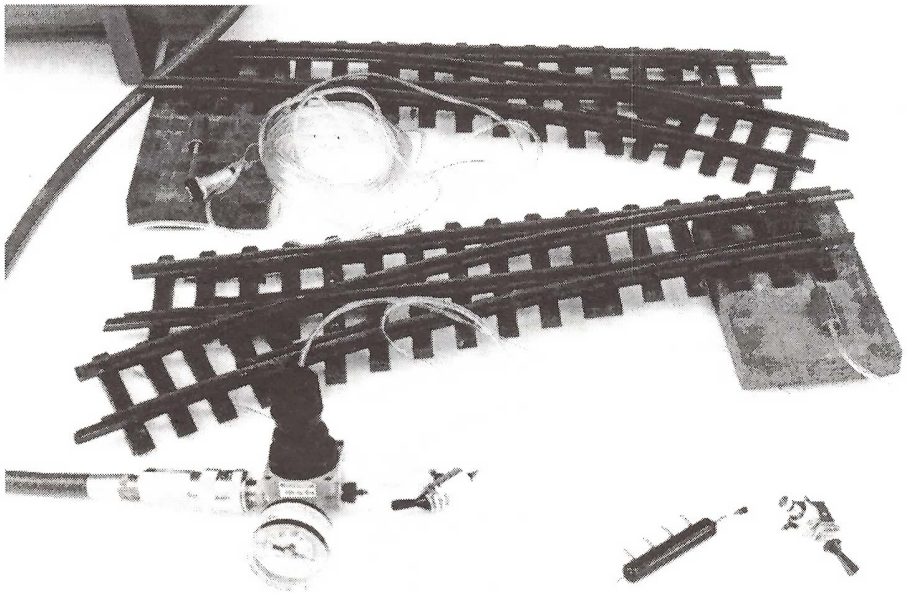
The last test I conducted was to hook up an air motor with 200 feet of tubing I had hanging around (don't ask!). The only difference was a delay in actuation of about .75 seconds. Not a problem unless you need to quickly divert the FLYER from certain doom as it hurtles toward the rear end of the brake van on the main instead of "in the hole".

So, what do I think? All the hardware is quality stuff and should hold up well in the garden. Advantages such as ease and flexibility of set up are certainly there. Cost is comparable, but it does require an air supply. The system performs pretty much as described in the literature. A concern I do have is troubleshooting an air leak, especially a slow one which could, unbeknownst to you, throw a turnout. But no system is perfect and, as I stated in the beginning, this system does keep the electrics out of the garden -- a real plus.

If you are contemplating what type of switch control to use for your railroad, I recommend giving the **Del-Aire** system serious consideration.

Available From: Your favorite dealer, or direct from Del-Aire Products, 321 N. 40th St., Dept. SitG, Allentown PA 18104 -- phone/fax 610-391-0412.





All hooked up! Nothing pretty here, but it all works great. I especially like that satisfying "pffssthtt" when you throw the toggle & set an air motor. Very railroady!

MAXWELL HEMMENS

As a result of many requests from customers, we have decided to make available for the hobbyist a range of components used in the building of our models. All parts will be to our normal high quality and will enable hobbyists to build a locomotive to their own design without the full facilities of a machine shop.

For example, the "Porter" package is:

1 A boiler complete with fittings and gas burner
2 The 'Power Pack' -- chassis, wheels, cylinder and control block
3 Valves, piping, nuts, etc.

These items can be purchased individually and will be available at competitive prices to excite the hobbyist.

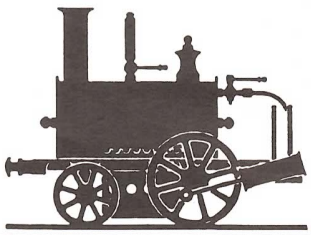
The receive further information contact either of our American agents:

Rio-Pecos Garden Railroad Co.
27136 Edenbridge Court
Bonita Springs, FL 33923
Phone 813 495 0491
Fax: 813 495 7264

Michael O'Rourke
Brandbright Ltd
2821 Hillegass Avenue #22
Berkeley, CA 94705
Phone/Fax: 510 849 9284

A fax request for information to our Head Office in England will receive an immediate reply from our sales staff (normal hours permitting).

Fax: 011 44 1904 448841



Maxwell Hemenns International Ltd, "The Steam Gallery",
Thorganby, York, North Yorkshire, Y04 6DA

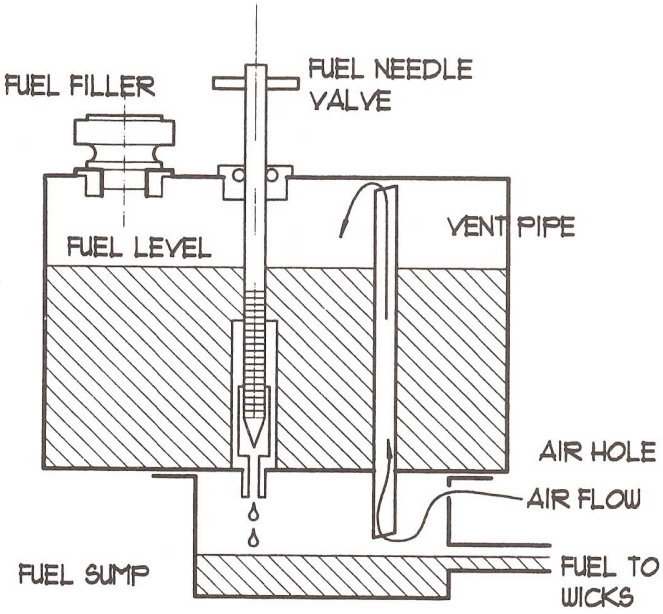
Modifications to an Aster Mogul Fuel System

by Murray Wilson

The original and 'Americanised' Moguls are early Aster models that were made purely to be run. It seems, though, that erratic running is common enough to suggest that the alcohol feed system design is marginal. I modified mine on the basis of the following reasoning and obtained reliable running at last. The modification may help other disappointed or frustrated owners.

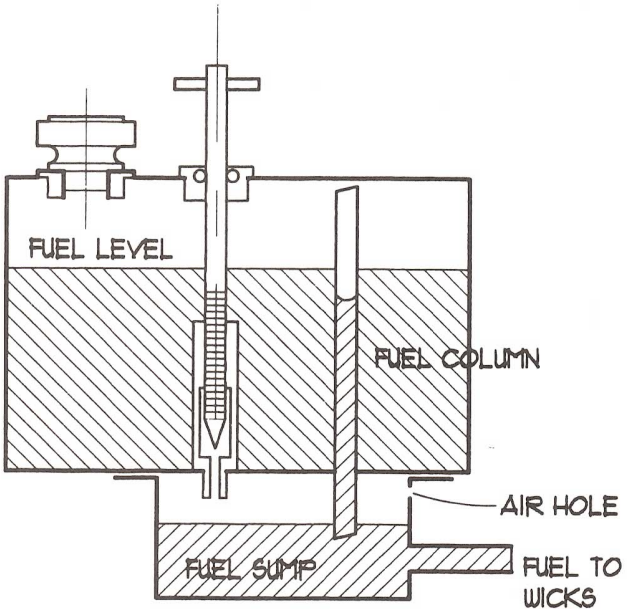
The well-tried chicken feeder system is used to maintain the correct fuel supply to the wicks. The accompanying sketches show how the system operates. What may not be realised is that when the rising fuel level in the sump seals the bottom of the vent pipe the alcohol is drawn up into the vent pipe by the inverted U-Tube effect. As the wicks take the fuel the sump level drops and the bottom end of the vent tube is uncovered again, but if the vent tube is of too small a diameter the column of alcohol that is now in it may not run out. If it doesn't, then fresh fuel will not be able to flow into the sump. It seems the vent tube must be of a sufficiently large diameter that the capillary attraction is weak and the column of alcohol in it can collapse reliably every cycle.

If the sump is being starved for this reason then the cure is to fit a vent pipe of larger diameter. Remove the existing vent pipe (a simple unsoldering job), open up the resulting hole in the tank bottom and solder in a pipe of 0.25" bore. This pipe should have similar end treatment to the original, but be 1/16" longer. The reason for the extra length is to allow for the increased volume of alcohol returning to the sump as the vent pipe empties, and so avoid a possible overflow from the sump vent hole.



Sketch 1

The fuel valve is open and the sump is filling. Air is being drawn in through the sump air hole and up the vent pipe into the fuel tank.



Sketch 2

The sump fuel level is now covering the bottom of the vent pipe. Fuel is drawn up the vent pipe and no air can enter the fuel tank, so no fuel can leave it. As the wicks use the fuel from the sump, the vent pipe will be exposed again and the situation reverts to that seen in Sketch 1.

Product Review

Videotapes...
Basic Metal Lathe Operation (and More)
Basic Metal Lathe Operation -- Volume II
by Steven W. Chellis and Robert M. Bailey

Available from: **Bailey Craftsman Supply**
PO Box 276
Fulton, MO 65251-0276
Phone 314-642-5998
FAX 314-642-2936

I was asked to review these instructional videos as I represent the ultimate in a machinist wannabee. In other words, I have very little idea of how a lathe or mill should be operated, as I count my time on both in minutes, rather than years, of operation. Therefore, the theory goes, if I found these tapes useful and understandable, then it would be an asset to anyone.

I found both tapes quite educational, and am sure that I would have gained even more had I had more experience on a lathe. However, rest assured that even the rank amateur such as I will gain knowledge of concepts of operation and useful visual input concerning various lathe operations from these tapes. As Bob Bailey said in the video, "The tape is not intended as a complete course by itself in lathe operation." So, with the tape as a visual reference, a good book on lathe operation is essential for details and a complete learning experience.

Volume I begins with a description of using a surface plate and surface gauge for layout work to insure accuracy and dependability. It addresses sharpening and grinding the tool bit for those using steel, and not pre-sharpened carbide toolbits. The use of layout dye and scribe marking was described, as well as the helpful tip to center punch using the bench block, and not on the surface plate, if you please.

The use of a threading gauge was explained and shown during a segment on outside threading, as well as the use of a dial indicator, micrometer and telescoping gauge.

This volume also was instructional in the admonition to not use aluminum in the standard jaws of a 3- or 4-jaw chuck, unless using protection from the hard steel of standard chuck jaws.

The use of a file to ease the edge is described, and we are shown how to do it safely by holding the tang in the left hand, counter-intuitive to you righties out there, to safely keep your arm away from the whirling chuck jaws.

I noticed, however, that in direct opposition to the instructional video, the statement was made that "...it is not recommended to use a file on the lathe..."

The making of a tap starter was shown, but I, in my diminutive comprehension, did not understand how to use it from the video.

One of the most telling phrases in this tape, directly applicable to anyone wishing to become proficient at lathe operation, was the statement that "The lathe is 5% theory, but 95% practice!"

I found Volume II a necessity to augment and expl .in portions of Volume I. They delivered different pieces of information, but more visual explanation in Volume II assisted in comprehending the actions depicted in Volume I.

Volume II showed how to machine custom soft jaws for use on aluminum and other soft metals, and did an excellent job of it. Additionally, it addressed things I didn't realize could be accomplished on a lathe, such as spring and coil winding and cutting a rack, which was fascinating to watch. It is truly amazing what can be done on a lathe when you make the tooling and jigs.

This tape showed how to use collets when a high degree of accuracy is desired, and how to knurl. It also showed the variations of making a self-locking taper, through use of an offset tailstock, taper attachment and offset compound -- or from a form tool.

It addressed making left hand threads, metric threads and multiple threads. This tape also showed the correct use of a parting tool, and how to use a 1/2 dead center to cut to the center of the workpiece on a facing cut. It showed how to use a toolpost grinder, and the difference between high-speed steel, carbide and carbide insert tools.

One of the most important features of Volume II was the emphasis on safety factors, such as using safety glasses, filing left-handed, removing chuck keys, wearing no loose clothing and getting control of our middle-aged long hair.

I think these tapes would be an asset to any machinist, whether novice or experienced. There were a few positive and negative minor surprises, though. The negatives were that the dialog was the quintessence of somnolence, so diligence in watching was required, and that, especially for a novice like myself, the selection and use of the toolpost was not addressed at all. The surprise positive was the description of a telescoping gauge, which I had never heard of in my life, and which I promptly found in two sizes at the next weekend's flea market!

reviewed by Chip Rosenblum

The Lathe-Free Locomotive

Part IV -- Preparing the Engine

Rob Kuhlman continues his construction series for fellow mechanical neophytes & klutzes

CORRECTION

It was while building a Lathe-Free Locomotive this spring, based on a Jensen 65 stationary, that I discovered an error had inadvertently slipped into the chassis plans in Part II.

The 3/4" semicircular recess towards the rear of the chassis side pieces should really be 7/8" in diameter instead. This recess accommodates the alcohol burner's fuel tank, which is made from 3/4" pipe. I forgot that plumbing pipe is calibrated according to the inside diameter, not the outside. I apologize to those readers following along with this project, and hope that I haven't inconvenienced them too terribly. By the way, the Jensen setup works real well. -- Rob Kuhlman

Part III, last paragraph, the Serv-O-Link sprocket numbers should be S103, S203 and S323. Our text scanning software turned the S's into 8's.....sorry 'bout that -- ed.

Do you remember last time that we drilled out some rivets to loosen up the goodies from their base? We've got two more rivets to do; these hold the cylinder assembly to the painted brass bearing face to which the copper steam and exhaust lines are soldered. First, unscrew the big screw (called the trunnion screw) which passes through a spring, the regulator, the bearing face, and then into the cylinder. Don't let the spring go boing and scatter the washer and other pieces to the four corners. Now drill out the rivets. Use figure IV-1 to cut out from tinplate a splash guard which will keep the oily steam dribbles from falling into the firebox and dousing our fire. Round the corners as you see fit, and drill 3/32" mounting holes in alignment with those on the bearing face. While you're at it, bend a folding crease at the dashed line; adjustment of the fold angle will come later.

Drip Shield

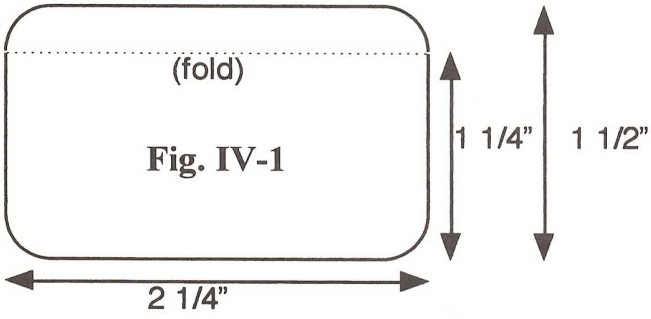


Fig. IV-1

At this point we'll want to true up and polish the mating surfaces on the cylinder face and the bearing face. Drape a 6" square piece of 320 "wet or dry" abrasive paper onto an absolutely flat surface such as a piece of plate glass and gently rub the cylinder's mating surface until you can see that the entire surface (that is, no humps or hollows) has been abraded. Do the same with the black bearing piece (I know this one is awkward; don't poke yourself with the steam pipes). Clean off the grunge and do it all again with 600 grit paper. Get those mating surfaces shining. This polishing should minimize steam leaks.

I've done something optional here which you may or may not wish to try; this is to cut some oil-retaining grooves on the piston's surface. Clamp the steel piston rod in your vise and, with a gentle torch flame heat the brass "big end", which hooks over the crankpin, until you can pull the big end off (with pliers, now, it's mighty hot). At this point I cheated. I've got a tiny watchmaker's lathe which I use in clock repair, which ordinarily has little application for live steam. I know this series is entitled the "lathe-free" engine, so I guess I'm just a hypocrite, but you could cut these grooves by chucking the piston rod into your drill press chuck. If you're truly a lathe-free purist, don't bother with this step, it's possibly not worth the trouble. Anyway, if you wish, chuck the piston rod and, with light strokes of the edge of a triangular file (see! — no gravers or cutting tools!), gouge three or four shallow grooves into the middle half of the piston's surface. Check to make sure that no ridges or chips built up around the piston's surface by test-sliding the piston into the cylinder. When you're done, tap the big end back onto the piston rod; there's probably no need to heat it this time.

Now we need to prepare the cylinder/flywheel support piece for mounting on our boiler. Take a piece of the sturdy 1/4" brass angle (from Coles or elsewhere) and cut a piece long enough to span the length of the support piece, from cylinder mount end to the crankshaft end. We'll want to bolt this brass angle (with our ubiquitous 2-56) onto the upper surface of the support piece so that the angle faces the cylinder and, together with the fold in the support piece, forms a long U-shaped channel. Transfer the locations of the holes in the support piece, formerly occupied by rivets, to the brass angle, drill the brass, and bolt it on. Cut another sturdy 1/4" brass angle 1-3/8" long for mounting on the underside of the support piece so that it's perpendicular to the long axis (i.e., it goes from side-to-side). Transfer the location of the former rivet hole down through to the brass angle, and mark out a new hole on the support piece so a bolt can pass through the longer upper brass angle, the support piece, and the lower shorter brass angle. Drill out the holes and bolt things together. Next, cut a piece of 1/16" steel 1-1/4" x 1-1/2". The upper 1-1/2" edge will mount flush under the support piece and bolt to the lower brass angle. The lower edge of the steel piece will be drilled out and mounted on the boiler studs. Go ahead and mark out and drill the steel and lower brass angle. When you are ready to mount the steel piece onto the boiler studs, first run a 2-56 nut onto each stud if you haven't already done this in Part III, then slide the steel sheet onto the studs, then run down another 2-56 nut onto each stud and tighten these up. Then run another 2-56 nut

on each stud and tighten it against the previous nut. These serve as locknuts and they're needed because vibration will loosen things up otherwise.

Attach the boiler water level sight glass (make sure the rubber O- ring is in its groove) and add the Goodall water injection valve to the rear boiler bushing and the new safety valve to the bushing in the middle of the boiler. Gently slide the boiler, from rear-to-front, through the firebox end pieces. It makes a terrible noise and will probably feel like getting your teeth drilled. Push the boiler forward as far as it will go — till the end cap is abutting the firebox end. Now cut a thick brass 3/16" angle approximately 3-1/2" long. This will mount on the cylinder support piece at the front of the crankshaft upright on the engineer's side, and will angle back to mount on the chassis at hole "U", Figure I-1. Cut another thick 3/16" brass angle, approximately 3-1/4" long, to be mounted on the fireman's side of the support piece and which drops vertically down to mount with either the upper side chassis/front end beam mounting bolt or a new custom hole drilled through the front end beam. I'm being purposely vague because your dimensions at this point may be different than mine, and a lot from here on in is cut-to-fit. Take a look at Figure IV-2 for guidance. At this point I should say something about painting. I've always used cans of spray paints — hardware store variety, automotive colors, special heat-resistant engine block paint, glossy, flat... I've never been convinced that there's a clear preference, though I suppose engine block paint should hold up to the heat the best. However, I've noticed that they all seem to chip at exposed edges and corners. I attribute this to my not baking the paint on. I've heard of people baking their paint in an enclosed box heated by a 100 watt light bulb. I suppose that should help; I'll have to try it some time.

I've also completely stripped an engine apart to paint it; I've painted each subassembly as I've completed it; and I've painted everything all at once after assembly. It all depends on how disciplined vs. eager I've been. I would encourage the disassembly or subassembly approach. By all means plug the boiler's holes and mask the threaded fittings. Mask off the bottom of the boiler as well — we don't want the paint to insulate the heating surface. Mask any bearing surfaces such as the axle bushings or cylinder bearing face. Above all else, be careful with the solvent vapors — do it outside if you don't have a fume hood — and don't inhale (reminds me of a certain Presidential candidate).

Next time, we'll do some body work and some of the remaining odds and ends. See you then.

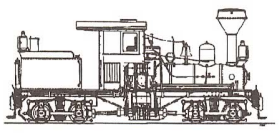
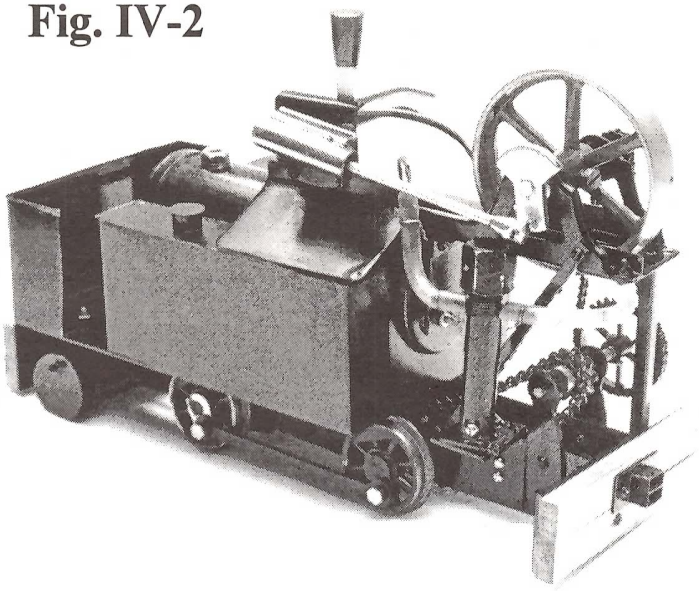


Fig. IV-2



Sources for items mentioned in this construction series:

Diamond Enterprises, Dept. SitG, Box 537, Alexandria Bay NY 13607. Phone 613-475-1771 FAX 613-475-3748. Mamod & Wilesco Stationary Engines, Traction Engines & lots more. Phone, fax or write for catalog & information.

Micro Fasteners, 110 Hillcrest Road, Flemington NJ 08822. Phone 800-892-6917. Great source for fasteners of all types and sizes. Ask for their FREE catalog.

Sulphur Springs Steam Models, Ltd., PO Box 6165, Dept. RB, Chesterfield MO 63006. Phone/fax 314-527-8326. Excellent source for many scratchbuilder and kitbasher items, including soft-soldering and silver-soldering torches and supplies, hard-to-find items like BA fasteners, taps, dies, Goodall valves, safety valves, wick packing and lots more. Send $2.00 for their catalog.

Berkeley Locomotive Works/Brandbright, 2821 Hillegass Avenue Nº 22, Berkeley CA 94705. Phone/fax 510-849-9284. Wide range of valves, wick packing, pressure gauges, and everything under the sun. Send $5.00 for their catalog.

Mike Chaney, 116 Vicarage Road, Chelmsford, Essex CM2 9BT, England. Phone 011 441 245 260 096. Mike manufactures and sells safety valves, Goodall valves and just about every other kind of valve you can think of. Also wick packing, steam regulators, replacement boilers, lubricators and a whole lot more. Send a $1 bill for a catalog.

Serv-O-Link, PO Box 100542, Ft. Worth TX 76185-0542. Phone 817-732-4327. Source for chain & sprockets, as mentioned in text.

Stock Drive Products, Box 5416, New Hyde Park NY 11042-5416. Phone 516-328-3300. Great source for chain, sprockets, gears, belts, bearings, couplings, etc. **Their catalogs are a wonderful reference.**

When contacting any of these firms, please mention that you saw them mentioned in Steam in the Garden magazine. Thanks!

LETTERS FROM THE OLD CURMUDGEON

"Whatsoever thy *hand findeth to do, do it with thy might".* Ecclesiastes, ix, 10

The Old Curmudgeon

Dear Gene -

Your last letter reminded me of the days when I also had a little tube containing an assortment of dull or broken small drills which I couldn't bring myself to throw away but didn't have any good way to sharpen. As you have discovered there are dozens of drill sharpeners on the market but none work with drills under 1/8" in diameter.

A little research revealed that others had worked on solutions to this problem. The June 1985 issue of MODELTEC magazine presented the design of a small drill sharpener which was quite elegant but seemed a little complicated for the purpose. After looking at various other methods for sharpening small drills I combined them into the simple tool that I use. I've enclosed a drawing of this tool. Note that no dimensions are sacred, including the angles. A 60 degree drill tip will work just as well as a 59 degree tip.

To make this simple small drill sharpener get a couple of small pieces of 1/4" thick steel. Brass or aluminum is probably too soft to last very long.

Cut these at a little over the 1" by 1-1/4" outside dimensions shown and clamp them together. Drill two #28 through holes at the locations shown. Now tap both holes in one plate 8-32 and drill out the other plate with a #16 clearance drill.

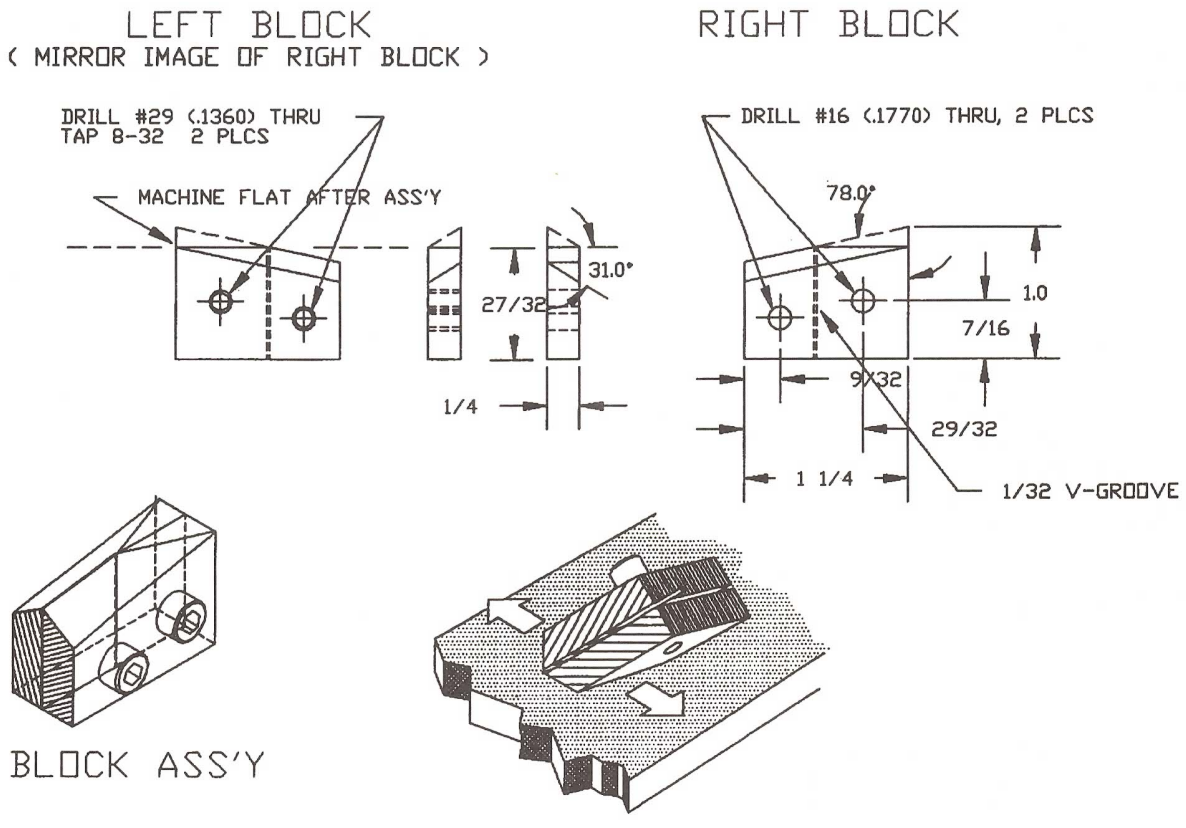
Screw the two plates together and finish the sides as shown. You can use your Unimat to mill the angles but you could also use the old 'saw and file' method for such small pieces.

Mill, scribe or engrave the 45 degree groove as shown. The depth will determine the smallest drill you can sharpen. I made mine about 1/32" deep, which will let me sharpen a #70 drill. Place the drill to be sharpened in the groove with the cutting edges perpendicular to the broad faces of the device and protruding slightly and clamp it between the two plates so that stroking the drill over a sharpening stone will sharpen both cutting edges.

Take a few swipes across a bench stone and you'll have a sharp drill with equal cutting facets. Yes, the facets are prismatic instead of rounded as on larger drills, but it doesn't seem to affect their performance.

Keep turning - Marv

SMALL DRILL SHARPENER



drawn by E. V. Rutkowski 7/2/94

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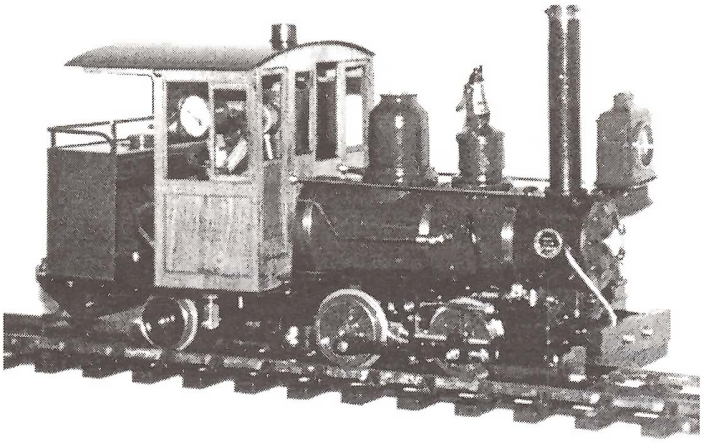

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What Does It Really Cost?

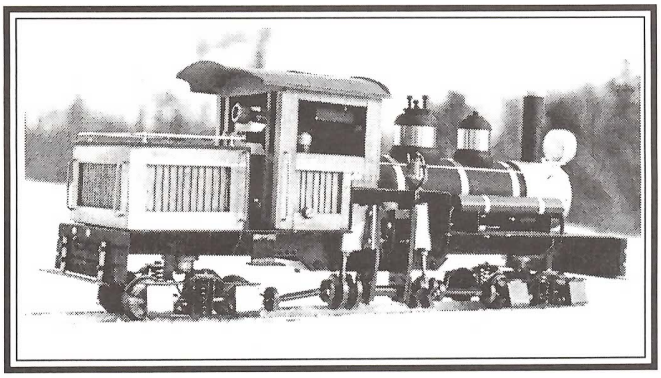
An analysis of the costs involved in getting started
in small-scale steam-powered railroads

(From an article by Geoff Spenceley in the GHBGRS Newsletter, from an idea borrowed from a letter to the editor in the British Gauge 1 Society Newsletter.)

Purchase of used Aster Schools	**$**	**1,500**
Cost of tools, accessories, fuel, etc. to steam up	**$**	**150**
Repaint of burned engine after first steam up	**$**	**300**
Purchase of house with garden suitable for railway	**$**	**150,000**
Track, wood and materials to build railway	**$**	**3,000**
Chainsaw for removal of some trees	**$**	**350**
Repair to neighbor's fence	**$**	**200**
More repairs to neighbor's fence and house	**$**	**2,500**
Cost of having remaining trees removed professionally	**$**	**900**
Cost of sending wife and family on vacation	**$**	**6,000**
Coaches for Schools to pull	**$**	**2,000**
Cat taken to vet after meeting train in tunnel	**$**	**400**
Repair to side of house due to meths fire	**$**	**1,500**
Another repaint of burned engine	**$**	**300**
Replacement coaches for Schools to pull	**$**	**2,000**
Lawsuit settled out of court for neighbor's little boy whose fingers were injured when he tried to stop train	**$**	**10,000**
Another vacation for my wife, who suggests that either the railway goes or she goes	**$**	**6,000**
Divorce settlement	**$**	**250,000**
Total cost to date	**$**	**437,100**

Geoffrey is quick to point out that this analysis does not actually apply to him or his fellow steam lover in the GHBGRS, Richard Heisler. Neither of them, for example, have ever had the expense of a repaint of a burned engine. There have been a couple of meltdowns, but no repaints were necessary in either case. Geoff also hastens to add that neither his nor Richard's wife would consider taking a vacation to get away from the trains. Geoffrey's wife feels that she needs to be close by in case of burns or injury to her spouse, and Richard's wife is very supportive of the hobby because it finally got Richard to work in the garden...her long cherished dream! Both good ladies also believe that this hobby keeps their spouses away from bars and other nefarious activities, such as golf. As you can see, expenses have already been reduced by a significant amount in both cases.

Geoffbuilt



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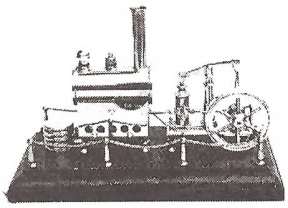
MAGIC IN MINIATURE



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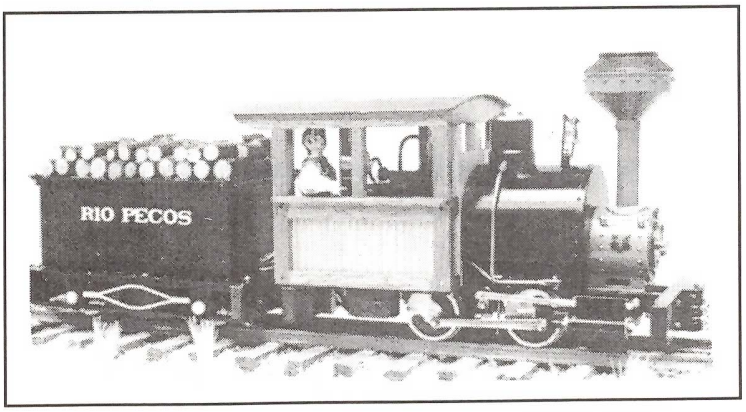

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Steam...Just Half-a-Bubble-Out-of-Plumb

by Anonymous

For as far back as anyone could recall, the railroad had been known by the locals as "God's Own Railroad".....but no one seemed to be able to remember exactly why, or how it had gotten the name.

Anyway, the Centennial of the Frog Creek Mining and Lumber Co. railroad was finally upon us. The line had seen some hard times since the mines played out, but we had worked hard to bring the old equipment up to snuff and had planned a parade of sorts through town, right in front of the bandstand down in the park, to show off our efforts.

Unfortunately, we had to work under the watchful eye of the owner...the most tightfisted, curmudgeonly old geezer we'd ever known. He looked like he had been around since before dirt, and somehow he knew what we were doing even when he wasn't there.

We only had two steam engines, fortunately both of the same make and model 'cuz neither of them was working. We cannibalized one engine to get the other one going, and then turned our nephews loose to repaint the engine for the big opening day.

When we went to the engine shed to fire her up, don't you know that they'd painted the wrong engine...and this with only 3 hours to go until the parade, and only 1/2 gallon of paint left! Being intelligent fellows who enjoy running the engines and keeping our jobs, we quickly added as much creek water to the paint as we could, and then used the diluted mix to spray paint the engine that was to lead the parade. It didn't look too good, but we applied the 100 foot rule and hoped for the best.

It was a bright, warm, sunny day, so the paint dried quickly enough for us to get up steam, couple up the log cars and head off for town. As we approached the grandstand we could hear the loud crackle of the public address system announcing our approach and talking about the refurbishing of the local railroad line. No sooner had we pulled almost even with the bandstand than a strong wind came up and huge, dark storm clouds rolled in and began the most tremendous downpour any of us had ever seen. A black river of paint was washed off of the engine and into the drainage ditch, leaving that old locomotive looking even more rusty and beat-up than it had before we started.

The clouds departed as quickly as they had come, and a booming voice that seemed to fill the sky and resonate around inside the cab clearly said "Repaint! And Thin No More!".....

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For Sale: Aster 2-6-0 JNR 8558 Mogul, 1:32 scale, alcohol fired, single cylinder version. Requires 2 meter radius. Fired 2 times. Asking $1000.00, includes shipping. Bob Simpson, PO Box 21, Mount Dora FL 32757 -- 904-383-4991.

For Sale: INDEX TO FIRST FOUR VOLUMES OF STEAM IN THE GARDEN MAGAZINE. Indexed by author, subject & contents. Send $4 (cash, check or money order) to Ricky Morningstar, 11 Kimberly St., Riverview NB, CANADA E1B-3P8.

For Sale: Gauge 1 Hyde live steam Shay loco with R/C and beautifully modified (marker lights, valves, tanks, etc.). Run less than 1 hour. $1100.00. Contact Tom Flair, 3265 Lake Winnipeg Drive, Harvey, Louisiana 70058 -- phone 504-367-9992.

Wanted: Ride from west coast to ITM Steamup in Indiana in September. Also looking for a ride to Diamondhead in January. Would prefer sharing the cost of a compartment on AMTRACK. Arnold Hoffman, 2970 Ramona Road, Atascadero CA 93422 -- phone 805-466-2398.

For Sale: Aster 5764 Great Western Pannier -- $1500/obo. Richard Finlayson, 408-974-8738.

For Sale: 1979's, 1980's, 1990's Live Steam magazines, $2.00 each. Send your list or contact Stan Grebas, 2037 Jackson St., Scranton PA 18504 -- phone 717-346-9087.

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One Reason We Love Iron Horses!

by Arnold Hoffman

From the International Library of Technology, Locomotives and Their Operation, Vol III, 1905

Reducing the Force of Collision

63. When in danger of a head-end collision, the engineer should close the throttle valve, whistle for brakes (if hand-brakes are used), open the sand lever, reverse the engine, and open the throttle. If the train is equipped with air brakes instead of hand-brakes, close the throttle, make an emergency application of the brakes, and open the sand lever, *but do not reverse the engine*. By proceeding thus, the force of the collision will generally be reduced, if the collision is not entirely prevented.

If, in the case of a train with hand-brakes, it is seen that a collision is inevitable, be sure to close the throttle (the engine being reversed) before the engines come together to prevent injury through escaping steam; also, if left open and the engine is not disabled by the collision, it may escape and cause further damage. The engineer should not leave his engine, no matter how imminent the danger, until after he has used all means of stopping, or at least checking the speed of the train. Then, however, if a violent or dangerous collision is unavoidable, he may protect himself by jumping off the engine, or remain on it, as he deems best; but he should never think of jumping until after he has done all in his power to prevent the collision, especially if he is on a passenger train.

If a collision is likely to occur on a railroad crossing and cannot be avoided by either train, the train occupying the crossing, if moving, should be brought to a standstill, if possible, before the approaching train strikes it. By this means the moving train will simply cut its way through the other, whereas, if both were moving when cut in two, the cars to the rear of the cut would crash forwards and pile up the cars of both trains on the crossing. Even though the engineer of the train on the crossing sees that a collision is unavoidable and that he cannot stop his train before being struck, yet he should try his best to stop, for the reason that the slower the train is moving when struck, the less will be the damage resulting from the collision.

End of the Line

Have you ever had one of those really bad days? Let me tell you about my month. The first sign that it was going to be a bad month was when the thermometer stuck itself above 90° and stayed there... with humidity to match. Temperature and humidity in that range tend to reduce me to a gelatinous mass with no form or energy, only able to barely survive by moving about amoeba-like, and huddling in or near air conditioner vents. And so it was that I spent most of the month of June.

The next bad sign was when it took me a week or more to diagnose and fix a problem with the first production model Catatonk Shay to enter the country. Things began to look up when a lengthy testing and shakedown session with the Shay showed it to be a fine performer. I should have realized then that the gods were laughing at my naivete, and I was being set up!

The <u>really</u> bad week began when we returned from church on Sunday afternoon. One would think that the act of attending church would give me some protection from random acts of fate, but it didn't. Maybe God saw me taking a nap when I should have been paying attention. Anyway, there was a message on the answering machine, telling me that my pride and joy, that first production model of the Catatonk Shay, had fallen into bad company and had melted down while taking its first run on the Toadflax and Frogtwaddle Railroad!

That little incident laid me mighty low, but Murphy wasn't done with me yet. I had promised the use of my utility trailer to a friend to move some machinery used in his business, but when I tried to attach the trailer to the hitch ball on the rear of our trusty rusty station wagon, I discovered that all the pieces normally found on the end of the trailer tongue, those parts that clamp the trailer tongue to the ball on the towing vehicle, were missing.

So for the next several hours I searched high and low and in between. Garage, basement, workshop, house, office, automobiles.....no stone was left unturned, but still no parts. And the manufacturer had gone out of business and no one had any parts. I finally located someone an hour away who claimed to have the parts in stock, so I drove over and bought the kit. Of course when I got home it didn't fit, and this discovery sent me off on another round of searching for the missing parts.

I noticed a board on top of the coal bin in our driveway that seemed to be sitting up at an odd angle. "AHA!", sez I. "I probably took the parts off last fall, set them on top of the coal bin and forgot about them. Obviously someone set that board on top of them some time later, and that's why I haven't been able to find them."

Striding briskly up to the board, I flipped it over, expecting to see the missing trailer parts. Nope, but I did find, attached to the bottom of that board.....A HORNET'S NEST! And the act of flipping the board over had apparently set off all kinds of intruder alarms in the nest, as thousands of jack-booted hornets wearing Nazi helmets and toting assault weapons were moving at high speed to locate and eradicate the enemy...ME!

Sizing the situation up in a nanosecond or two, I moved with the agility and cunning of a panther and the speed and grace of a gazelle. I spun around and tripped over a pile of plastic 2x4's (which are to be used in rebuilding our track if the heat ever drops below the boiling point, but that's another story), pitching me forward at approximately a 45° angle. With my face rapidly approaching the surface of the driveway, my legs, feet and lower torso instantly accelerated to warp speed in an effort to catch up with my upper torso, regain my balance and stave off disaster. It must have been quite a bizarre sight to see a 300+ lb. man moving at roughly 85 mph across the driveway while bent forward at an impossible angle, finally slamming into the garage, altering its shape from square to trapezoidal, moving it off its foundation and relocating it approximately 8" southwest of its former location.

My ruse worked (what...you thought I was just clumsy?), and the hornet death squad, some weakened by laughter and the others simply stunned into inaction at this implausible sight, were unable to catch and sting me to death. Detouring through the garage and skirting around the scene of the Great Hornet Debacle, I returned to work on the trailer.

Using some heavy duty tools and colorful language, I beat the whole assembly into submission and managed to get it to work, even getting the trailer hooked up and delivered without having it disconnect and pass me on the way over there.

Upon returning home I decided to mow the lawn, which, due to the heat and humidity, had grown to hayfield height in just a few days. After 3 or 4 passes, there was a terrible KACHUNK! I had found the missing trailer parts. Or rather the rapidly whirling lawnmower blade had found them, and had propelled the two larger pieces, with a combined weight roughly equal to a small anvil, out the discharge chute like a chunk of lead from a .357 Magnum and straight through the back window of our station wagon, which was parked 50' away, minding its own business.

The parts hit the window with such force that glass was thrown clear up onto the dashboard and into the air conditioner vents. Unfortunately, both parts had been so badly mangled by their encounter with the lawnmower blade (which didn't fare so well either) that they were beyond redemption.

While I was cleaning up the glass, Faithful Assistant, who was sick with sinusitis and bronchitis, took our other car to go to the pharmacy. Twenty minutes after she left, she came walking back. Our second car had died on the way to the store and left her stranded. I drove the glassless wagon up to check it out, and found that it was definitely out of order. In a series of jackrabbit-like lurches and lunges, I managed to get it home, where it will sit until we find someone to work on it. Probably me, but I don't dare touch it right now. Maybe in October.....or some time in 1996.

So you see, it probably wouldn't be prudent to stand too close to me just now. I'm expecting a bolt of lightning at any moment.

What's that? There's not a cloud in the sky? True, but under the circumstances it probably doesn't really matter.

And how are things going for you?

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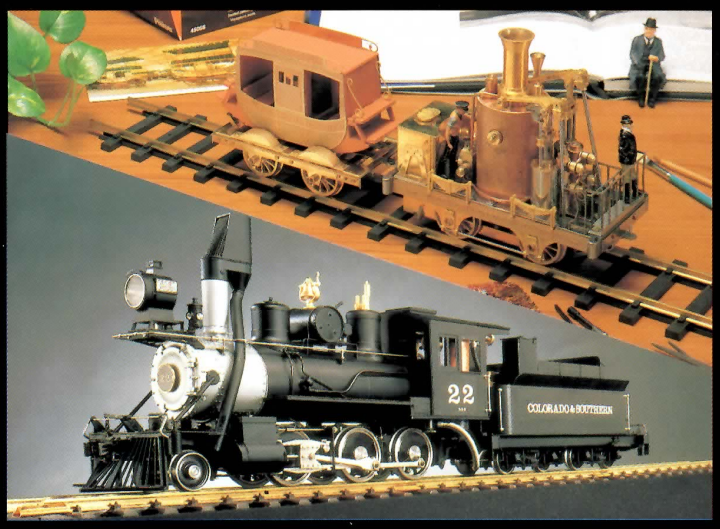

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