

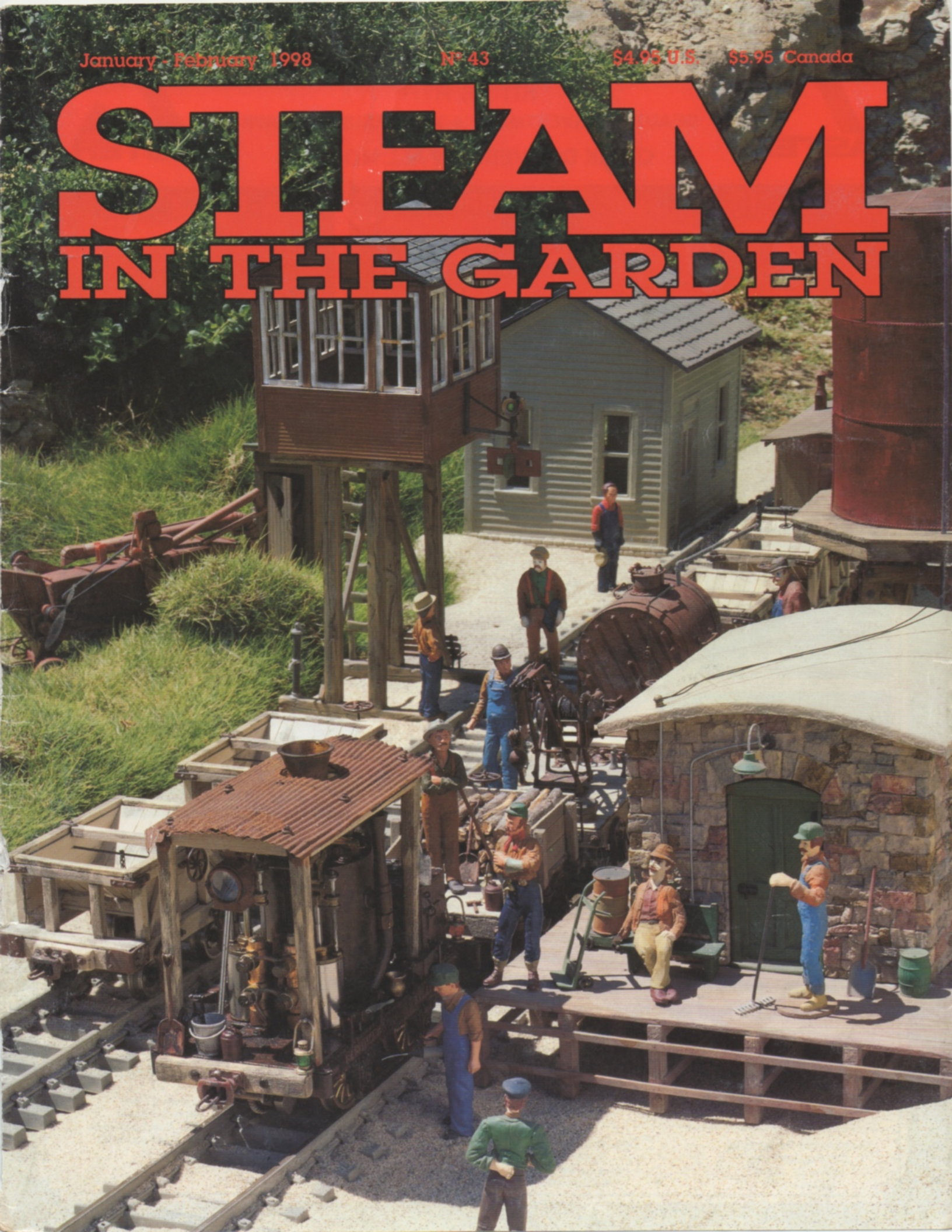
January - February 1998

N° 43

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# STEAM IN THE GARDEN

Vol. 8, N<sup>o</sup> 1  
Issue N<sup>o</sup> 43  
January/February 1998

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**ON THE COVER:** Dawn has just broken over the rugged, timber covered hills of northern California on a summer day in 1888, and the crew readies the little mining train for a day's work.

**BACK COVER:** Later that day the engineer oils the locomotive as the crew awaits their orders.

*Models by Sonny Wizelman, Art Direction by Rick Runyon,  
all photography by Steve Crise.*

**Editor/Publisher**  
Ron Brown

**Invaluable Assistant**  
Marie Brown

**Graphics Director**  
Harry Wade

**CAD (and other) drawings in this issue by:**  
Harry Wade • Larry Bangham • Peter Jones

### Regular Contributors

Larry Bangham	California
Peter Barclay	Australia
Crankpin	The South
Rich Chiodo	New Hampshire
Tag Gorton	England
Marc Horovitz	Colorado
Peter Jones	Wales
Joe Leccese	Massachusetts
Jim McDavid	California
Mel Ridley	England

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Questions or comments? Call us Mon. - Fri. at 607-642-8119 before 9:00 p.m. Eastern time, please...or FAX us any time at 607-642-8978. e-mail address: docsteam@spectra.net

Our web site, *Steam in the Garden Online*, is located at: <<http://www.steamup.com>>.

This publication is created on  
Apple Macintosh™ computers.







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. Letters may be edited for length or clarity. Send your letters & photos to: SitG, Dept. RPO, P.O. Box 335, Newark Valley, NY 13811, USA.

\* \* \* \* \*

Our friends and fellow steamers in Italy recently suffered a terrible natural disaster, which has had a dramatic effect on their lives. We received the following letter from Dr. Guido Mattoli, President of the live steamers group in Foligno, Italy, where live steamers from around the world gathered last year for an international steamup. Please read Dr. Mattoli's letter, and then do what you can to help. - ed.

A.M.F.F.

Associazione Modellisti Foligno Città' Ferroviaria  
sede presso il Presidente

Dr. Guido Mattoli

via Roncalli 11 1-06034 FOLIGNO (PG)

Tel.: 0742/ 35 07 82 Fax: 0742/ 35 84 49

Internet page: [www.bcsnet.it/amff](http://www.bcsnet.it/amff)

e-mail: [Ricmatpg@bcsnet.it](mailto:Ricmatpg@bcsnet.it)

Dear Live Steamer, Dear friend,

## INFINITE EARTHQUAKE!

The A.M.F.F., the first association to promote the passion for LIVE STEAMERS in Italy, is today faced with a most serious problem: the EARTHQUAKE. We are still alive, thank God, but we all have a home and a place of work which has been damaged. We had begun the construction of our beautiful 7-1/4" gauge track along the mountain, but now our office in Valtopina is very badly damaged, and so for the moment it is closed. The 5" gauge track and gauge 1 track have also been badly cracked and only the wooden station is free of damage, but it is not big enough to contain us and our trains. The locomotives and carrying cars were not badly damaged when they fell off the rails.

In this chaos WE ARE DETERMINED to rebuild the tracks and to continue the construction of the new 7-1/4" gauge track. We had

fixed the opening date of the beautiful show which was going to celebrate the inauguration of the new track as September 2000, but today this seems like a far off dream.

ALL THIS CAN BE ACHIEVED HOWEVER WITH A LITTLE OF YOUR MORAL SUPPORT. Send a letter or fax of solidarity to the association, asking the MAYOR OF VALTOPINA (Mr. Giancarlo Picchiarelli) and the PRESIDENT OF THE UMBRIAN REGIONAL COUNCIL (Mr. Bruno Bracalente) to NOT underestimate the importance the construction of the first MINI STEAM RAILWAY in ITALY could have for the valley as a tourist attraction, and to therefore help our association with this project.

If you would like to help us in a more substantial way you can make a donation directly to:

Dr. Guido Mattoli

President of A.M.F.F.

Via Roncalli, 11

06034 Foligno ITALY

Or with a money transfer (also by credit card) to the BANCA POPOLARE DI SPOLETO - Foligno branch. Code ABI 5734 and CAB 21700. Current account number 18104 made out to Guido Mattoli. Description of payment: PRO VALTOPINA LIVE STEAMERS.

A memorial tablet inscribed with the names of all the people who have helped us will be unveiled at the inauguration of the new track.

Thank you all, from the bottom of our hearts.

Guido Mattoli

President

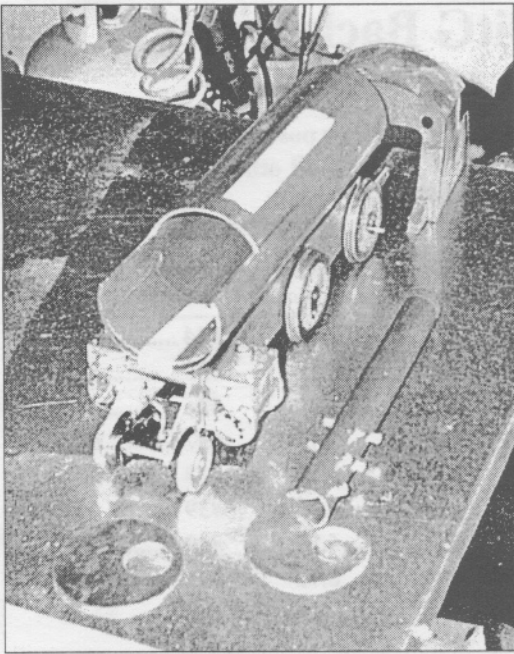
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Cape Coral, Florida

Dear Ron,

I'm enclosing a photo that may be of interest to you. It shows a British Schools Class I'm building from scratch. As you can see,





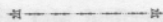
it has a mono-tube boiler fired with propane. The projections you see on the burner flue are 1/4" bronze welding rod. Projections give the porcupine effect for additional heating surface. The top of the smoke box is removeable to make the connections of the steam and exhaust lines easy to reach.

I have made six propane gas containers for locomotives and boats. I use 4% silver solder to attach copper caps onto the appropriate diameter copper pipe. I have used 1-1/2" and 2" pipe.

I am making my own gas burner nozzles. I've found it much easier and accurate to use hypodermic needles soldered into a suitable piece of brass. By the way, I purchase most of my raw material from Small Parts, Inc. in Miami, Florida. I find all the copper tubing I need at a local scrap yard for pennies a pound.

Regards,

Ken Parkinson

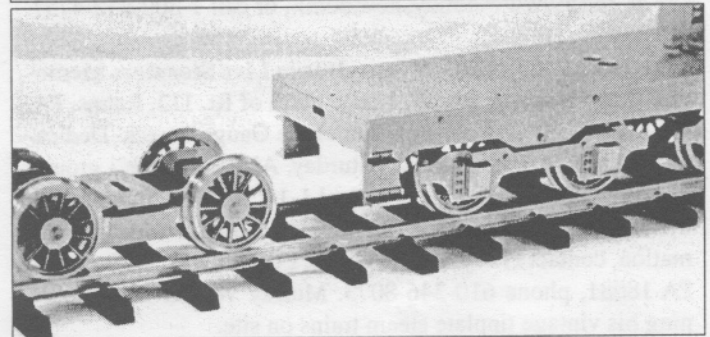
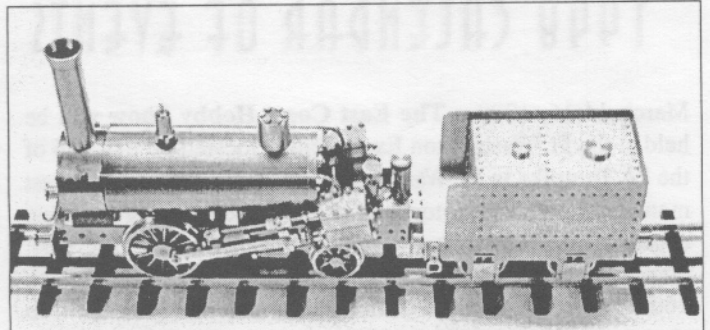
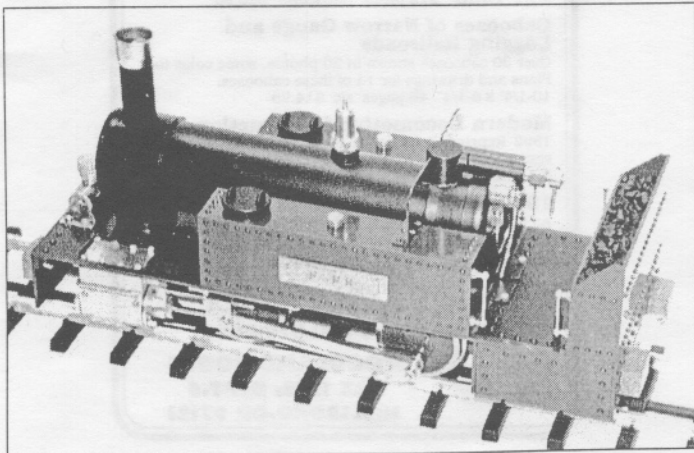


Wyoming, Michigan

Hello Ron:

On page 7 of the Nov/Dec 1996 issue, you printed some pictures of my portable track and unfinished loco, "RAINHILL".

Enclosed you will find pictures of this loco, now completed, along with pictures of a freeland design that I just finished. Also



included are 2 photos of my current project, a 4-2-2 "PRINCESS OF WALES" tender chassis and leading bogie.

Drawings for this engine were obtained from: Locosteam Model Engineers, 'Wynwood', King Street, Neatishead, Norwich NR12 8BW, England.

This company offers a number of gauge 1 engine construction drawings. Wheel and cylinder castings are also available. Their catalog costs US\$6.00 (cash).

Richard Schnur

*Very nice, Richard. Crisp and tidy. Obviously quality craftsmanship. Hope to see photos of your completed "PRINCESS OF WALES" when it's finished, and it would really be nice to someday have a chance to see your locos in steam. - ed.*



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# 1998 CALENDAR OF EVENTS

March 14-16, 1998 – **The East Coast Hobby Show** will be held at the Ft. Washington Expo Center, located off exit #26 of the PA Turnpike in Ft. Washington, PA. Over 250 of the largest manufacturers, distributors and publishers displaying the latest & greatest the industry has to offer. Model railroading, R/C cars, planes, boats, trucks, motorcycles, helicopters, etc. Open March 16th for the trade only. For more information, check the web site at <<http://www.hobbyshow.com>>, or call 1-800-252-4757.

May 23 - 24 - 25, 1998 – **Pennsylvania Live Steamers Memorial Day Steamup**, Rt. 29, 1 mile north of Rt. 113, Rahns, PA. We have completed construction of the Gauge 1 track. Dedication will be at 2:00 p.m. on Saturday. Also available - ground level tgrack for 1/2" - 3/4" - 1" and 1-1/2" (7-1/4" gauge) scale trains. Food is available on site, lodging nearby. For more information, contact Harry or Paul Quirk, PO Box 215, Springtown, PA 18081, phone 610-346-8073. Murray Wilson will be running his vintage tinplate steam trains on site.

May 29-31, 1998 – **Second Annual National Spring Steamup**. The location will be the Sunnyvale Hilton, located conveniently between the San Jose and San Francisco International Airports. This is the same location and same weekend as last year. In addition to steam tracks, dealer room, and clinics, the 1998 National Spring Steamup schedule will include an excursion to the Roaring Camp & Big Trees Narrow Gauge Railroad for a ride behind geared locomotives through the Redwoods, and three additional days of steamups at local garden railroads. National Spring Steamup registration will be \$60 per person before April 1st, \$65 thereafter. A special rate has been secured for Steamup attendees at the Hilton of \$61 per night. Contact Richard Finlayson for more information: 2408 Grandby Dr. San Jose, CA 95130 408/871-0318. Info and registration forms are on the Web: <<http://www.steamup.com/steamup>> or Email:info@steamup.com

May 2, 1998 - 9:00 am to 2:00 pm – **Central New York "G" Scale Modular Club's 2nd Annual Large-Scale train show and sale**. Something for every large scale modeler, including live steam. For more information and table reservations, contact Gordon Davis, 315 Viking Place, Liverpool NY 13088 (315) 451-3199

*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 (i.e., ground level or elevated, minimum curve radius, ruling grade, etc.)*



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You can also contact us via e-mail at: <[docsteam@spectra.net](mailto:docsteam@spectra.net)>



For reprints of sold out back issues, contact:

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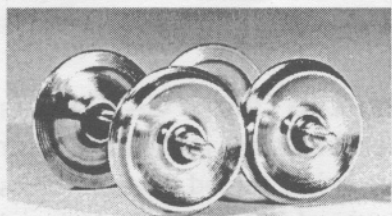
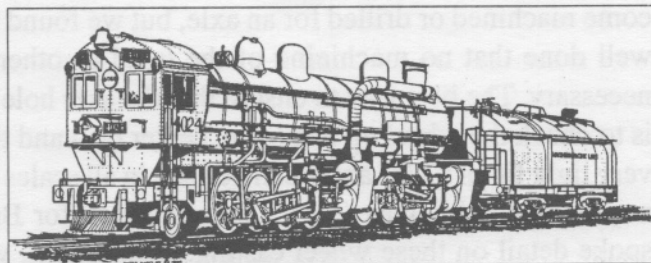




# WHAT'S NEW?



Peter Barclay at Data Art, 56 Kenny Street, North Balwyn, Victoria, Australia 3104, is offering a range of beautifully rendered line drawings of steam locomotive. The quality of these prints is superb, and they will really dress up the walls of your office, workshop or anywhere else you might want to hang them. Pictured here (and in full page size elsewhere in this issue) is Number 4 in a series, the Southern Pacific AC-2 Cab Forward.



Gary Raymond Quality Larage Scale Metal Wheelsets, PO Box 1722-G, Thousand Oaks CA 91358 • phone 805-492-5858, longtime supplier of quality wheelsets for gauge 1 model railroaders, introduces GAUGE 3 WHEELSETS. These high quality 36" wheelsets are designed for 2-1/2" gauge. The feature accurate front and back wheel contours, Nickel plated treads and stainless steel axles. The 3 36 RX wheelsets are available through local dealers or direct.

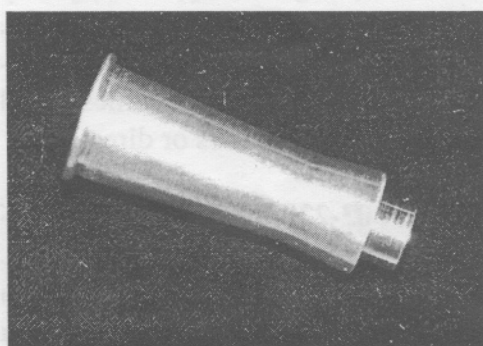
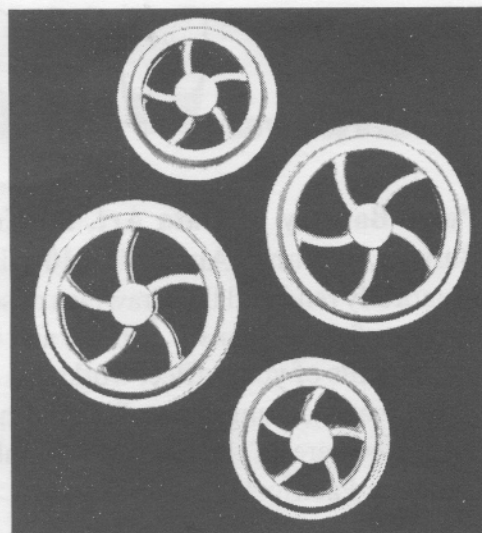
Digital Video Images, Inc., PO Box 2584, Littleton CO 80161-2584 • phone 303-220-8996 • fax 303-220-8933, has a new 90 minute video to add to their library of "How-To" tapes for the Large Scale railroading hobbyist. *Modifying Plastic Rolling Stock*, hosted by fellow steamer Alan Olson, takes the hobbyist through a step-by-step process by which an ordinary inexpensive plastic refrigerator car (Bachmann) is transformed into a museum quality piece of rolling stock. The video is produced with both the beginner and advanced modeler in mind. \$29.95 plus \$3.00 shipping in the continental USA; \$7.00 shipping for foreign orders. We haven't seen a copy of this particular video, but we know and respect Alan Olson and have admired his work for years, so we don't hesitate to recommend that you get a copy of this tape and start turning your boring plastic rolling stock into realistic railroad equipment that you can display and operate with pride. When ordering, please mention that you read about it in SitG.

Doubleheader Productions, 3725 Pageant Place, Dallas TX 75244 • phone/fax (972) 247-1208 announces a new steam loco coming from Wrightscale in 1988. Excelsior, a very small Bagnall 0-4-2 with inverted saddle tanks, will be available for both 32mm and 45mm track gauges. The model will feature Wrightscale's high level of detail and finish and will have excellent running characteristics. Although no price has been fixed yet, Excelsior will be a lower priced engine to make it attractive to both the experienced steamer and the newcomer alike. To place a no-obligation reservation for Excelsior, contact Ken Matticks at Doubleheader.

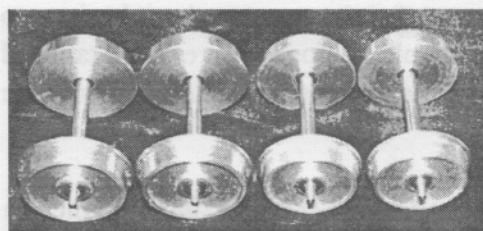
AERO-LOCOMOTIVE WORKS, PO Box 336, Western Springs IL 60558-0336 • phone/fax (708) 246-9027, offers a number of useful lubricants for the live steamer and garden railwayman. ACT-1111 "NG" Jel Gear Lubricant is formulated for use on all gears, bushings, shafts and bolsters. It will not fly off or shed. Easy to apply...just brush it on. ACT-2752 Heavy Duty Bearing Lube comes in a needle-applicator bottle and works well on axle bearings, bushings and similar applications. We've been using samples of these lubes for several months, and have found them to be very easy to apply with the needle applicator tips, and they have been very effective. Highly recommended.



**Ozark Miniatures, Dept. RB, PO Box 107, Desoto MO 63020 • fax (314) 586-2480**, has just introduced a new line of cast wheels, designed especially for 32mm gauge scratchbuilders and/or kitbashers. These "curley spoked" wheels come packed 4 wheels per package, and are available in two diameters....805" (OM-502, and 1.060" (OM-501). The wheels do not come machined or drilled for an axle, but we found that the castings are so well done that no machining of the tread or other parts of the wheel is necessary. The best way to ensure that the axle hole is drilled exactly right is to chuck the wheel up in a lathe, center drill and then drill thru #31 for a very tight fit on a 1/8" axle. Can be used in all scales for industrial carts and narrow gauge buggies. They also work well for British 16mm cars. The spoke detail on these wheel castings is excellent, which is true of all the products we've seen from Ozark. Okay...you 32mm guys have been asking for these items, so let's support this manufacturer who is giving you what you asked for!



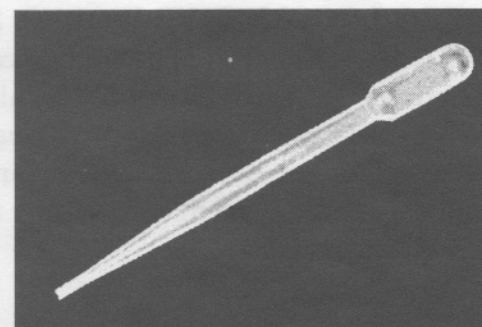
**Trackside Details, 1331 Avalon Street, San Luis Obispo CA 93405**, is another small company making excellent detail castings and parts for our use, and they have recently introduced a beautiful turned, tapered brass stack. Notice that it also bells out at the bottom! TD-164 was designed specifically as a replacement stack for the Bachmann Shay, but it seems a shame to waste such a beautiful machined brass stack on a plastic locomotive! I'm sure that we'll see plenty of these showing up on those scratch-built and kitbashed steamers that were in such great abundance at Diamondhead '98.



**Sierra Valley Enterprises, 3755 Saratoga Avenue, Merced CA 95340 • phone 209-722-8278**, have established a reputation as builders of beautiful, custom built rolling stock for 1:20..3 scale railroading and a full line of metal wheelsets for gauge 1 and gauge 0. They are expanding their line, and have just announced their brand new metal wheelsets for 7/8n2, a new scale on the miniature railroading scene representing 2-foot narrow gauge railroading on gauge 1 track. These finely crafted wheelsets are

available in 18" and 20" diameters, and in plain steel, black oxide plating or nickel plated versions. The samples we received are BIG, and they really make a statement about the size of the models in this scale. No wonder it seems to be attracting so much interest! Watch for many new items coming out in this scale from various builders this year. Ask SVE about their outstanding line of rolling stock, detail parts and wheelsets.

**Sulphur Springs Steam Models, PO Box 6165, Dept. RB, Chesterfield MO 63006 • phone/fax (314) 527-8326**, has some nifty new items...two sizes of pipettes for removing condensate and spent steam oil from your locomotive's lubricator at the end of a run. They are very handy, and so inexpensive you can use a new one every steaming day and discard it at the end of the day...or use it again and again. #TSP-1 is 3" long and is priced at \$2.00 for 10. #TSP-7 is 6" long and is priced at \$2.25 for 10. Plus shipping, of course. Order some now and be ready for the steaming season! Every steamer should have SSSM's catalog - chock full of nifty steam items, still just \$3.00 ppd.....and worth every penny.





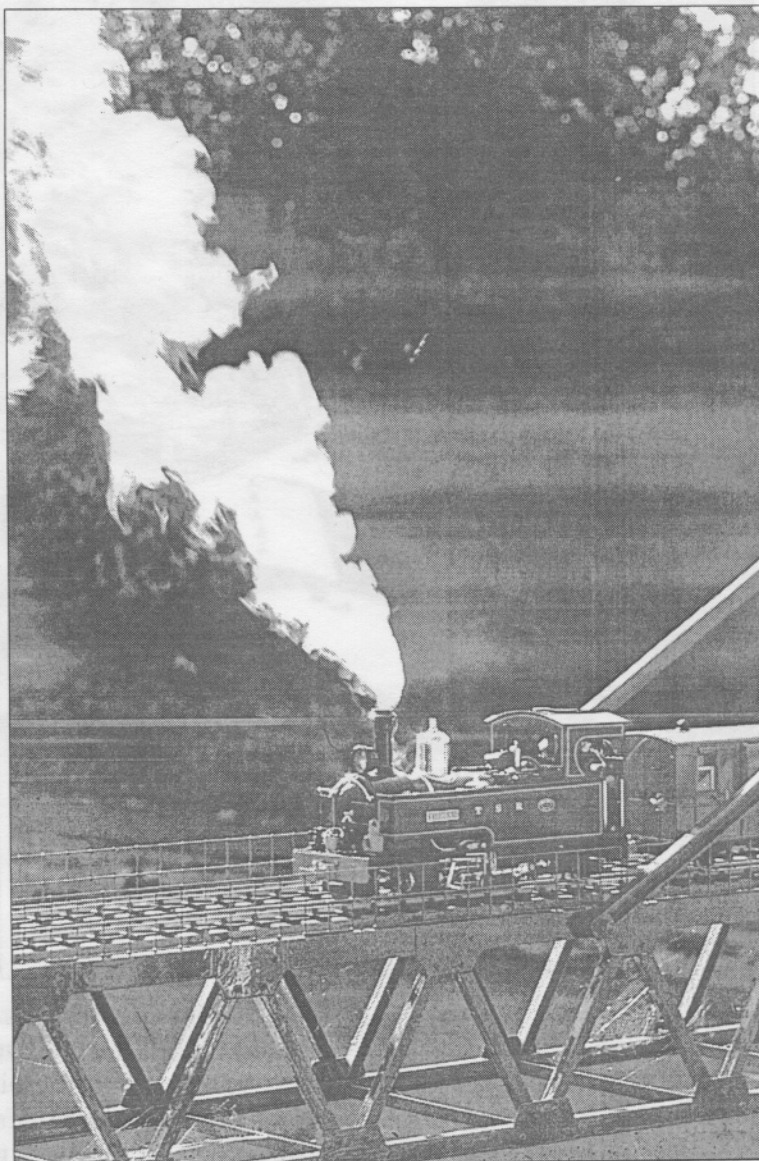
# The Artful Bodger

by Tag Gorton  
photos by the author

## Tamar Valley Steam

In this tight little island of Albion our perception of distance, I suspect, is rather different to that of our American cousins. When I first started out on this live steam odyssey into the garden, I felt very much out on a limb because all the marvellous steam railways that I read about in 16mm Today (the house magazine of the 16mm Association), seemed to be miles away 'up country'. Travelling eighty miles to the nearest advertised garden meeting seemed to me a bit of a trek for an afternoon of steaming!

I realise that many readers of SitG, certainly my buddy James Ritson way up in Alaska, would be pleased to have another hobbyist quite so close! Nevertheless, having friends with garden lines within easy striking distance certainly adds to the pleasure of one's hobby. With the rapid expansion of interest in garden railways in general and live steam in particular, I think we can all look forward to a reduction in travelling times. In my case, the nearest garden railway (currently under construction) is now ten minutes walk away, while George McKie's Plymstock & Hooe Railway is a half hour drive. I do, however, have to cross the border into England! This month, however, I should like to offer a track pass to a line situated on



On the high iron! A MERLIN Hunslet backs a heavy consist of passenger stock down from the carriage sidings.

the Cornish side of the Tamar, just twenty minutes up river from my own Longlands & Western.

### A Small Hamlet in Cornwall

Nestling deep within a curve of a Cornish river valley and caught between the windy, gorse covered slopes of Kiti Hill to the west and the lush, tree hung shore of the River Tamar to the east, lies the small hamlet of Latchley. While this sleepy village lost its twelve inches to the foot branch line from Plymouth in the early 1960's, it is now home to the heavily engineered route of Don Arthur's 16mm scale Tamarside Railway. Arguably the largest (or should that be longest?) 16mm line in the West Country to date, this railway combines civil engineering features on a heroic scale with delightfully distinctive scale architecture and meticulously built trackwork.

This carefully planned line has drawn inspiration from several types of both modern and traditional garden railway construction to take best advantage of the garden topography. The result has been a railway that is both comfortable to use and an attractive adjunct to the garden as a whole.



## Waist High Comfort

There are, on the TSR, areas of traditional timber viaduct construction so beloved of the standard gauge garden railway fraternity. The main disadvantage of this type of fabrication is the very basic one of appearance - although another important consideration is the action of a squall of wind on an expensive train of vehicles travelling three feet six above ground. The advantages obviously include having one's line at a comfortable working height for operating manually controlled live steam locomotives, and the avoidance of waist high embankments that would necessitate the provision of freeway sized earth moving equipment at the construction stage!!

Don's viaduct section has been built against the lower boundary of the garden, and carries the permanent way to the far reaches of the lawn and the ground level section of the line. Designed to be unobtrusive, *Tempus fugit* and the fecundity of the upper Tamar Valley have ensured a decent covering of vegetation to blend the civil engineering works into the landscape.

Now, while ground level lines are ideal for the modern idea of producing living scale scenery to frame the working of our model trains, neither Don or myself are keen on grubbing around at ground level, and compromise is therefore the order of the day. It is perhaps serendipity that most gardens are not completely flat - at least in this bumpy section of the West country! Don Arthur has made practical use of his topography, and the Tamarside Railway curves away from the lower reaches of the garden into the carefully landscaped village of Latchley with its junction station, cuttings and tunnel.



Visiting LWR locomotive *Sir George Harvey* pauses below Angler's Rest bridge. The unworthy thought occurs that the crew may be at the bar of the hostelry, quenching their thirst after the long drag from Chilsworthy. Joe Green, relief driver on loan from the LWR, is known for his liking for a cool drink on a warm day.

## Ground Level Engineering

I like both tunnels and cuttings, but it has to be said that if these features are to be undertaken on a garden railway, then the quality of both planning and the civil engineering has to be of the highest - particularly if one is running live steam locomotives. Perhaps the thought of lying on the ground trying to retrieve a hot, derailed steam engine from a three foot tunnel concentrates the mind on track and permanent way standards!

The ground level section of the TSR is both an object lesson in ground level garden railway civil engineering and a delightful cameo of a lost transport age. The trackbed itself is constructed of shuttered concrete on a hard-core base, and careful use of a spirit level, rather than the more casual Mark I eyeball, has produced a baseline allowing Ffestiniog-type "narrow gauge mainline" standard trackwork. The cuffing sides are held back with mortared stone and lead to a short tunnel, again of concrete construction

and strong enough to walk over.

Whatever type, or era, of line we wish to model, be it the ramshackle, Betjemanistic ambience of the late thirties or the confident, carefully tended infrastructure of the heyday of the light railway, the quality of the trackworks is paramount. Whether we run under track power, battery, or steam...it's no fun if our trains keep falling off - and constructional methods need to reflect the more robust requirements of the garden, rather than the gentler climate of the railway room.

## Country Cameo

Latchley village is bounded by the railway. From the junc-



tion, the Latchley avoiding route, and that generally taken by through trains, is via the tunnel overlooked by the Angler's Rest public house. The road to this hostelry is taken over the cutting by a typical box girder bridge. This simple structure is a nicely observed model with an integral working street light.

Most of the buildings in the village itself - including the pub, 'Buckingham's', the Post Office and Frank Old & Son's Garage with its typical folding doors, are heavily modified Welshpool Potteries offerings, the small group of dwellings and businesses framed by a carefully planted selection of conifers and alpine plants. Small details of street furniture catch the eye and delight the imagination - the red village telephone kiosk and letter box next to the shop, the nostalgic enamel advertisements on the garage exterior promoting road transport products of an earlier, less sophisticated age, harking back to a time when car doors opened from the front!

All of this 16mm real estate, together with the station buildings and working signals is electrically lit, and the "Fanny by gaslight" effect of this low voltage illumination on still summer evenings casts atmospheric pools of light, shining softly between the miniature conifers. I may say here that a steam powered TSR train, with its illuminated passenger stock, puffing through this very English hamlet in the gathering dusk, is a moving cameo of sight and sound that remains held in my memory, to be enjoyed on the bleakest of winter days.

From Latchley the main line arcs away from the station and strikes out across the lawn on the level. It is on this section, after the station stop or after coping with the reverse curves on the avoiding line, that locomotives get into their stride and the bark of a

steam exhaust sharpens as the summer Saturday-length trains customary on the TSR negotiate the sweeping curves. The track bed here is built on hard-core and bounded by decorative stone blocks set at ground level to allow the lawnmower to negotiate the line. Constructional methods change again as the line approaches a raised border, and here the permanent way is running on a low baseboard which, at this point, is wide enough to accommodate a generous fan of spurs (carriage sidings). A large carriage shed is currently under construction on this site.

### On the High Iron

From here until Chilsworthy station is reached, the line has the appearance of double-track (unusual on the narrow gauge even in the United Kingdom), but is in fact a long spur from Chilsworthy yard which shares the trackbed with the main line. Again plantings and rockery decently clothe the timber built framework, and at the end of the carriage sidings the track bed moves onto a stone wall which carries the line up to the massive Tamar Iron Bridge. This double-tracked girder bridge is, without doubt, the major engineering feature of the Tamarside line and is cleverly designed to fold down when not in use to allow access for both lawn mower and family. This magnificent edifice carries the line into a large garden shed which contains Chilsworthy station, headquarters of the TSR, and the main area for servicing locomotives.

This is, generally speaking, an unusual feature for a 16 mm live steam railway, but there are obvious advantages to the idea. A primary benefit is the ability for the more delicate of drivers to service their engines in the shelter of the shed



A pair of exotic motor cars pause for petrol at Frank Old & Son's garage in the village on a damp autumn day. Perhaps the next stop will be for a Cornish pastry in the bar of the Angler's Rest.



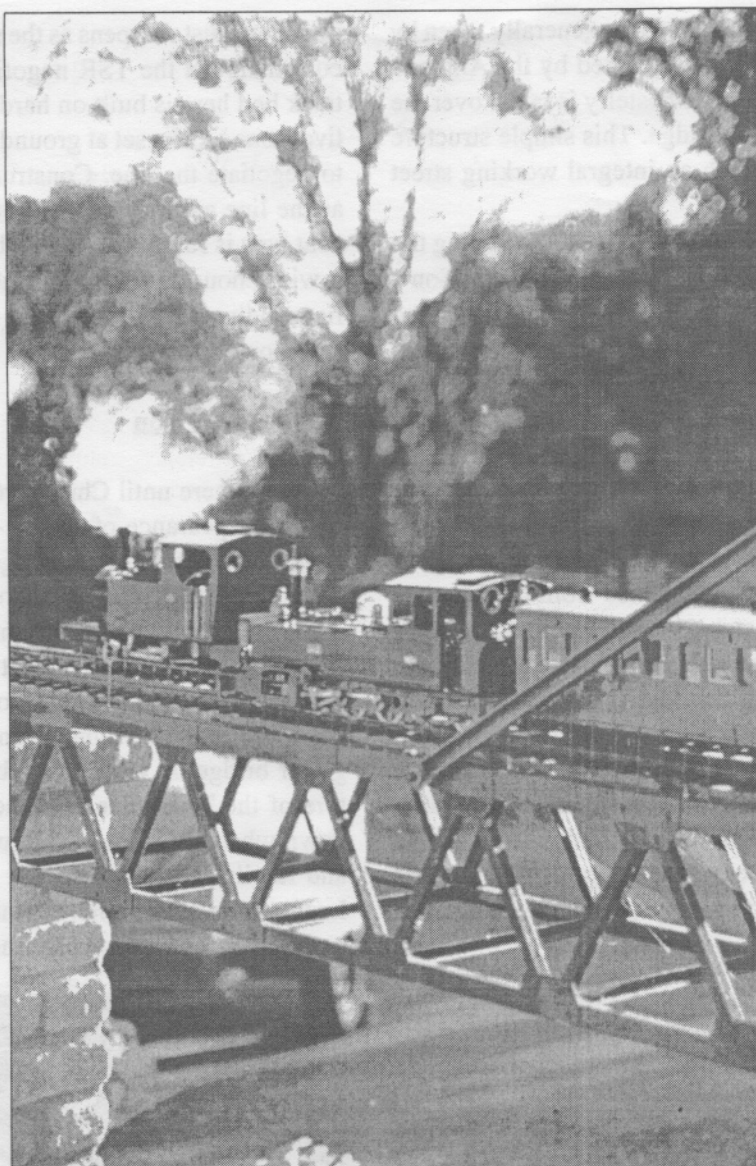
during inclement weather. The shed is also used as a practical carriage shed and Don's long rakes of rolling stock are stowed here, without the necessity of removing and boxing after a running session. One may also build structures perhaps to a higher level of detail, and I am not sure how long Don's electrically powered turntable would last in the damp environment of what the Great Western Railway was pleased to call the Cornish Riviera!

Disadvantages are primarily aesthetic in that no matter how detailed the modelling, lighting conditions are never "right" indoors!

Lack of natural daylight is a small price to pay however, bearing in mind that there are manifold opportunities for photography elsewhere on the line. I have to say that this covered section can be very convenient, particularly when testing recently repaired engines from the Gorton Locomotive Works!

### On Shed at Latchley

The TSR has an eclectic collection of steam locomotives. In common with my Longlands & Western, it is an all steam line and motive power includes generic locomotives typical of the narrow gauge, through to scale models of actual prototypes. ROUNDHOUSE ENGINEERING products are well represented, with one of the ubiquitous *Lady Anne* class engines, a Campbelltown & Machrihanish *Argyll*, a modified Lynton & Barnstaple *Exe* and a large 0-6-2 colonial pattern Fowler with bogie tender. *Daniel*, a MERLIN Mayflower plus a large MERLIN Hunslet make up the rest of the stud, together with the latest addition in the form of a delightful internally gas fired baby Hunslet. This last locomotive, named *Elidir*, is a colourful, accurate and highly detailed model from the stable of TOLHURST ENGINEERS.



A brand new PEARSE Ulysses steams light engine past a ROUNDHOUSE Lynton & Barnstaple locomotive on the Tamar Iron Bridge.

### Passenger Comfort

The TSR has a large collection of kit built rolling stock. There are examples of Ffestiniog, Corris, Welshpool & Llanfair, Lynton & Barnstaple and Rheidol stock. These were constructed for the very good reason that Don just liked the look of them!! Many people purchase kits or ready-to-run stock largely because their main interest is steam motive power and they have to have something to pull. TSR kit built stock, however, is fabricated to such a high standard, with many of the kit parts discarded for home built items, that they have the appearance of scratch-built glass-case exhibition models. In a word, they are superb. All the passenger stock is illuminated with period light fittings, first and third compartments have different levels of upholstery, and the lining, where appropriate, is undertaken by Don Arthur to a very high standard.

### A Sunny Day's Steaming

I have spent many a happy afternoon in this quiet Cornish valley, relaxing in the warm sunshine and delighting in the sight and sound of steam locomotives working heavy trains over this well engineered railway. It is good to let my locomotives stretch their legs on this long line and, as one's train pulls slowly away from Chilsworthy station, there is the pleasant realisation that there is time to pour, and probably drink, one's tea before arrival of the 2.30 p.m. Ex Latchley. In the distance the Doppler wail of a steam whistle is heard, rising above the sound of the bird-song, and I decide to take my camera out to the Iron Bridge, to record the passing of the next train.





# Notes From The Backyard

by Rich Chiodo

## Decision, decisions...

The last several years have seen an explosion of moderately priced, good running, small scale live steamers. Every new announcement gets my attention as I fantasize adding to the IofSLRy&NavCo stud. Reality usually strikes somewhere near the pocketbook when I come to grips with the desire-to-have contrasted with the return-on-enjoyment. Impulse buying at this level is not for the faint of heart!

So, how do you go about assessing what is the "right" locomotive to purchase for your empire? Several factors and circumstances unique to your intended use, your approach to the hobby, operational constraints, personal tastes and of course financial considerations come into play. Like everything else, the more you know the better off you are; and the more tightly you focus on those factors which will make you happy, the more likely your purchase will sustain and grow your enthusiasm, rather than cause you to walk away and take up model airplanes or something.

I know, all this pontificating drains the fun factor out of a supposedly relaxing hobby. Suffice to say that somewhere between a Mamod and an Aster Big Boy, there is an engine for you. Here are some things to consider.

How much money are you willing to spend - really? Simple, yes, but I have been personal witness to several purchases where buyer's remorse was immediate when said new owner came to his senses and realized how much money he spent.

Are you going to operate this locomotive? What? Yes, many of

us *collect* live steam locomotives. A collector's piece can be a whole different beast than a runner. Fit, finish, papers, pedigree and modifications (God forbid) may be more important than whether or not the prize can pull its own weight.

Now, sometimes we inadvertently stumble on a collector's piece when we thought we were buying a runner. These "hanger queens" spend their days on the shelf waiting for the next "collector". The point is, if you intend never to run the thing, you don't have to worry if it does. If you are going to operate it, then a demonstration from the buyer before laying out your hard-earned cash is a very good idea.

Where and how do you intend to operate your charge? Is your garden line a waist level affair with 20 foot radius curves, easements and superelevation? Do you only run at get-togethers such as Diamondhead, or is your line a ground level affair with tight radii and short tangents? All these factors and more will greatly influence your choice.

Things like the number of driving wheels, leading and trailing trucks, radio control and/or ease of manual control, slow speed operation, method of firing, and other factors will determine where you can run reliably and with enjoyment. Mainline, meths fired, manual controlled 6- and 8-coupled tender locomotives are at their best on broad-curved, elevated lines. Smaller tank and 4-coupled engines fired by gas, and perhaps fitted with radio control, may be a better choice for a more compact, ground level operation.

The only hard and fast rule here is what minimum radius the locomotive will negotiate. The rest is subjective, but can greatly swing your enjoyment of a particular engine.



Heading outbound, the local with a MH Porter at the point is 'stabbed by the blade' at the double diamond entrance to the yard. The little 0-4-0T will soon be polishing the metals on its way to Paterson and points west.

Photo by Rich Chiodo



Are you a tinkerer with some mechanical skills or do you want little to do with the fuss and fiddle of some high strung beast? A live steam locomotive requires SOME intervention on your part; however, do you really have the patience to trim and pack the wicks properly before operation, fill a boiler to a predetermined water line, fuel up with tinted methylated spirits, move off to your lighting-up spot and carefully light up, insuring all wicks are properly lit, and then wait several minutes, ensuring a proper draft as the beast come on the boil, recheck the wicks and then clear the condensate as you warm the cylinders, adjust the reversing block lever and throttle for your load and line and then tend the beast as it makes its way?

Now, even the simplest locomotive, like Aster's little 0-4-0 single acting, dual oscillating cylinder locomotive of some 25 years ago may seem any easy engine to operate, yet the above diatribe is exactly what I go through (and I left out the oiling around, clearing and refilling the lubricator and checking all fasteners) to get a 10 minute run.

Today's gas fired, radio controlled lo-

comotives still require proper firing procedures, but much of the fiddling of fuel, burner and throttle are lessened. Personally, I enjoy the ritual - and the more fiddly the better.

What are your interests: Industrial, Narrow Gauge, Mainline, Logging, Sugar Cane operations? Recently, I rethought what my Isle of Shoals Light Ry&NavCo. really needed for power. I set aside the gotta-havit factor for a minute and really thought about what would make sense.

Now, if some of you don't give a second thought to operating a Shay ahead of a string of streamlined coaches, that's fine too. My RR is a small, knee level narrow gauge line with modest curves (10 foot radius) and no grades. It is basically a goods hauler and transport for a sand and gravel company. Mainline steam would never polish the metals, neither would anything much larger than an 0-4-0. Perhaps a Forney or an 0-4-2 could handle the light passenger traffic.

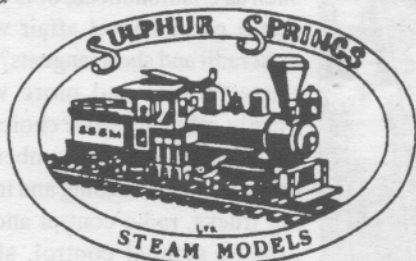
Having done this, I began reshaping the IofS stud to better reflect operating conditions. Several prized locomotives had to go, and I have since added several that fit

the modus operandi perfectly. Am I limiting my enjoyment? Well, I realized recently that I will never have every locomotive that calls out to me. Focusing on those that fit my line and operating style gives me some rationale upon which to base my choices.

All of this can be thrown out with the fish wrapper. The hobby thankfully has an extremely wide "bandwidth" of what is proper. If the flanges fit between the rails and it goes around the curves, who's to say whether it's "right" or not! However, paying some attention to locomotive selection beyond the "sizzle" usually results in a longer lasting satisfaction with the acquisition. It greatly reduces the chance of emulating that old boating adage, which goes something like, "The happiest two days in a boat owner's life are the day he bought the boat.....and the day he sold it."

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Rich



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# Casting About

by E. V. Rutkowski

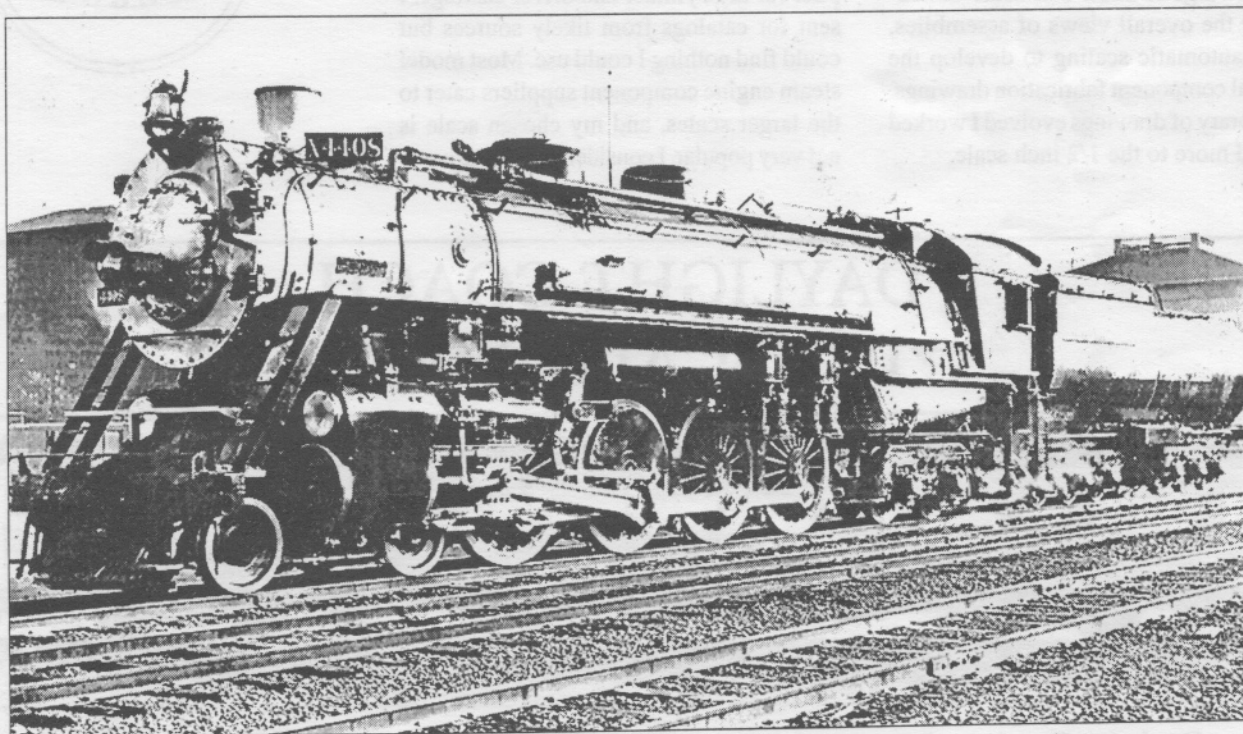
Down the primrose path....

I didn't intend to become an amateur foundryman, it just happened that way. It all started with my ambition to build a model live steam locomotive. I had just retired and wanted to set up a small shop to putter around in. I read all the conventional texts such as: *So You Want to Build a Live Steam Locomotive* by J. F. Nelson and *The*

to pick a 0-4-0 switcher to model rather than a 4-8-4!)

My background and early college years may have contributed to my fantasy of whipping out a neat model locomotive in a year or two and then laying track all over my back yard. When I went to college to train as a mechanical engineer I was ex-

(CAD) to generate drawings. On the basis of my delusions I began to generate the design of the GS-1 to match the capabilities of my home shop. Of course, as the loco (what an appropriate word!) design progressed I found that I needed more shop tooling. I ended up with a 12 inch swing, gap bed lathe, a mill-drill machine, metal



4408, a Southern Pacific 4-8-4, and the object of the author's affections. When working on a long-term building project like this, it's always a good idea to keep a reminder of your goal where you can see it often, so you don't lose sight of where you are going. This is an official SP photo from the book *Those Daylight 4-8-4's*, by Wm. W. Kratville & Robert J. Church.

*Model Steam Locomotive* by Martin Evans. I subscribed to *Steam in the Garden* and *Live Steam*. The result of all this passive activity was that I developed an incurable urge to design and build a model Southern Pacific GS-1. (Experience has since taught me that a first time builder would be wiser

posed to courses such as *The Casting of Metals* and *Steam Power Engineering*, which I found to be of no use in my subsequent 40 years as a professional. Somewhere along the line I got comfortable with the use of computers, both for design calculations and Computer Aided Design

cutting bandsaw, grinder and a chest full of measuring instruments and other small stuff.

I have always been particularly impressed by the power and the overall look of the big Northerns and, having tentatively decided on an SP GS type, I bought a couple



of books which had detailed, dimensioned, drawings of the GS series. Every one knows of the SP GS-4's, 5's, and 6's which powered the famous "Daylights" but I was attracted to the GS-1, the first of the family, because it did not have the well-known skirts and streamlining. The GS-1 was your basic workhorse in black, with all its pipes, domes and running gear exposed.

Having selected the prototype, I had to decide what scale to work in. I didn't have any desire to ride on or behind my loco and I wanted it to be small enough to lift with only a grunt or two. Another requirement was that the selected scale had to be one of the standard scales so parts would be available from model supply houses.

Working within a weight limit of about 100 pounds for a 4-8-4 determined that I should use the scale of 1/2 inch to the foot. I found it was easiest to make my initial CAD drawings to show full scale dimensions for the overall views of assemblies, and use automatic scaling to develop the individual component fabrication drawings. As the library of drawings evolved I worked more and more to the 1/2 inch scale.

In the process of developing the locomotive design, I wanted to avoid casting any of the parts if I could. The frame was designed to be made of 1/4 inch steel, assembled with machine screws. Only the driver and cylinder castings needed to be purchased as castings from a supplier.

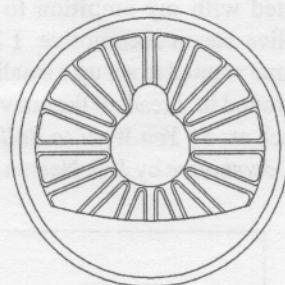
During the time that I was working on the frame I sent off for a cylinder casting just to see what it looked like and to make some measurements needed to finish the frame. When it finally arrived I was astounded to find that it was cast of some soft alloy, possibly zinc based. To my mind, while this would be okay for a toy display model, it was worthless for a working steam engine. On a hunch I called the supplier to ask if the drivers were also cast of this stuff and found out that they were. I sent the cylinder casting back and cancelled my order for the drivers as well.

Now I searched for an alternative supplier for my cylinder and driver castings. I sent for catalogs from likely sources but could find nothing I could use. Most model steam engine component suppliers cater to the larger scales, and my chosen scale is not very popular. I considered 0 gauge parts,

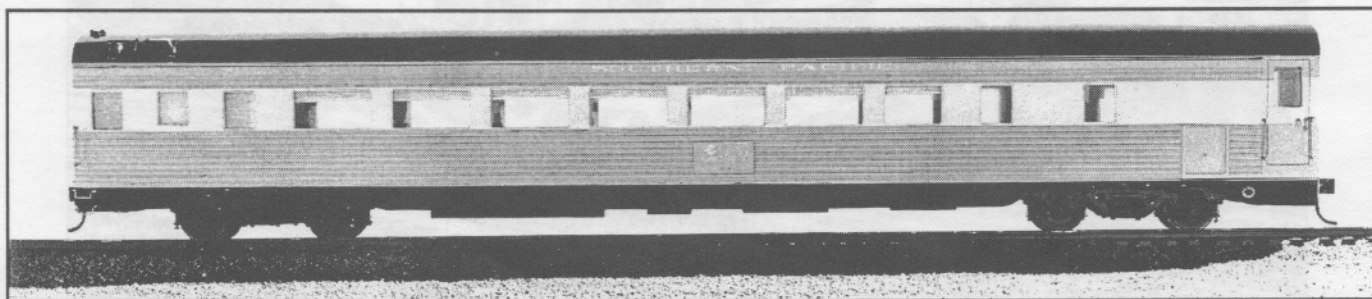
but could not find anything that was suitable.

I know that there are a number of fine steam model part suppliers in England, but I wasn't comfortable dealing with a firm at that long range and so I didn't try any of them. Since I had already spent a considerable effort in designing and building the pilot truck, frame and drive boxes for the GS, I decided to suck it up and learn how to cast the needed parts. Heck, it's a chance to learn a new skill, I told myself.

Next issue.....*What do I do now?*



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# GAZING INTO THE FIRE

by Peter Jones  
photos & drawings by the Author

## Kissing Frogs (part 5)

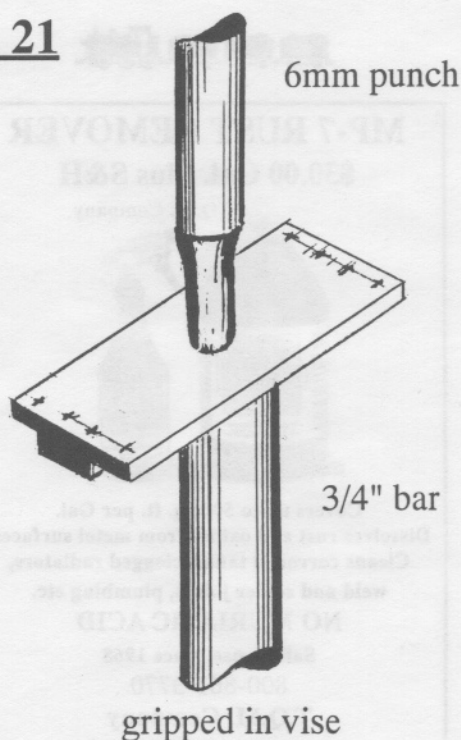
We now turn to the heart of the project: the cylinders. We won't be calling for miracles of precision engineering, but it makes sense to take our time. The main faults are usually:

- Lack of flatness on the valve face
- Oversize pivot pin, which causes heavy knocking
- Valve ports which cut off steam before the engine has reached the top of the stroke, and don't open until the piston is well past dead centre.

This last is usually the main reason for poor performance and, indeed, if it weren't for steam leakage past the piston and valve faces, the thing would barely run at all.

We start by putting a stub of 3/4" bar in the vise. We want a 6mm diameter pin punch next (another nice little turning job).

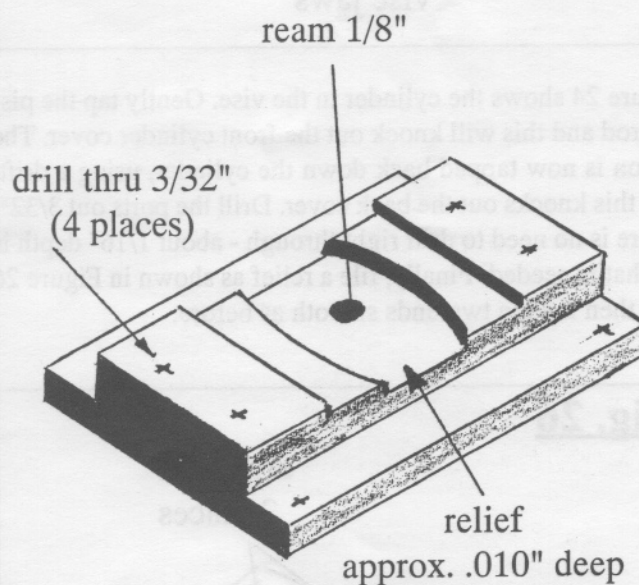
**Fig. 21**



The punch is struck down into the spring recess and closes the hole up nicely - until a 1/8" reamer will not pass through. See Figure 21. This treatment may distort the block slightly, but this is remedied with a couple of taps of a hammer on an anvil, using a piece of steel twist hammer and block. Check for flatness against a straightedge.

Drill out the four ports to 3/32" dia. File away the centre portion of the face by about .010". This will leave two raised lands, or faces, each having the two ports drilled in them. The centre hole is now reamed 1/8". Check out Figure 22.

**Fig. 22**

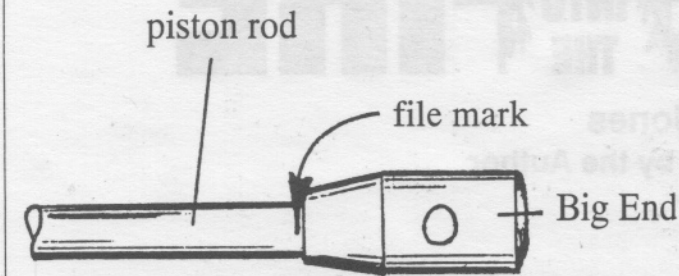


It is now time to make both portions of the cylinder unit flat, and this is done in the same way that we tackled the valve - using a fixed file and then wet and dry paper. There is no need, surprisingly, to remove every trace of the scratches. They will give something for the gasket to bite into.

To start work on the cylinders themselves, we first have to look at where the big end screws into the piston rod. Make a



**Fig. 23**



mark on the piston rod (Figure 23) so that the big end can be pushed back accurately. The big end is only a push fit. To remove it, the exposed portion of the piston rod is held in the vise whilst the big end is gently twisted off with a tommy bar through the crankshaft hole.

**Fig. 24**

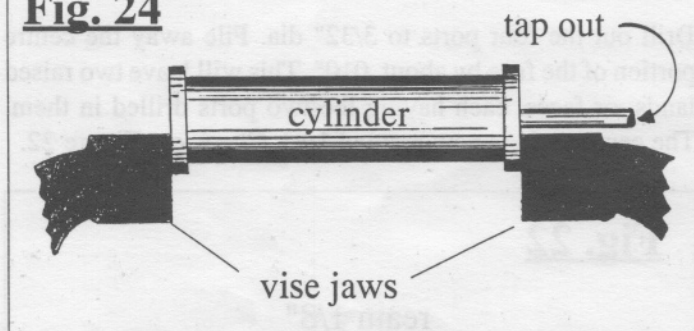
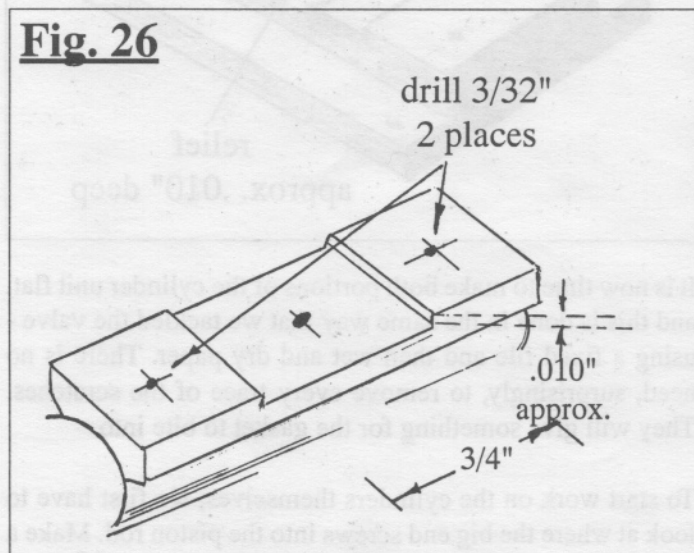
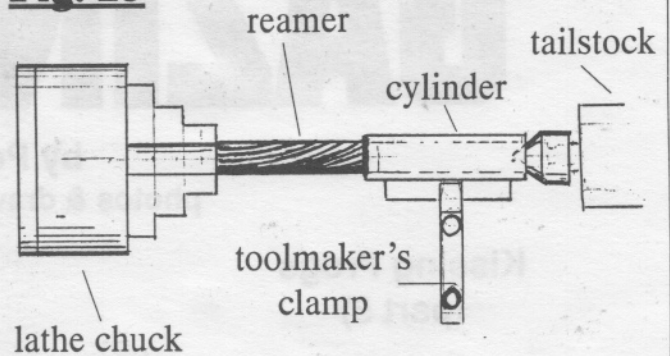


Figure 24 shows the cylinder in the vise. Gently tap the piston rod and this will knock out the front cylinder cover. The piston is now tapped back down the cylinder, using a drift, and this knocks out the back cover. Drill the ports out  $3/32$ ". There is no need to drill right through - about  $1/16$ " depth is all that is needed. Finally, file a relief as shown in Figure 26 and then lap the two ends smooth as before.

**Fig. 26**



**Fig. 25**



### SETUP FOR REAMING THE CYLINDER IN THE LATHE

The cylinder needs to be reamed through with a 10mm hand reamer. This can be done by hand or in a lathe if your 3-jaw is accurate enough. If not, use a 4-jaw and set up to an accuracy of  $.001$ ", using a dial indicator. Set the lathe speed to about 80 rpm. The cylinder is supported at the back end by a revolving centre and by the reamer at the other end. It is held with a toolmaker's clamp, or even self gripping pliers (suitably padded). Given a choice, use sulpherized oil rather than mineral oil to lubricate. The reamer is slowly pushed in until it touches the tip of the centre at the other end. The cylinder is now gently moved to the left with the clamp so that all of it has been reamed. This procedure, although sounding complicated, does eliminate the risk of "bell mouting" either end.

In the next installment, we will make new pistons and piston rods.



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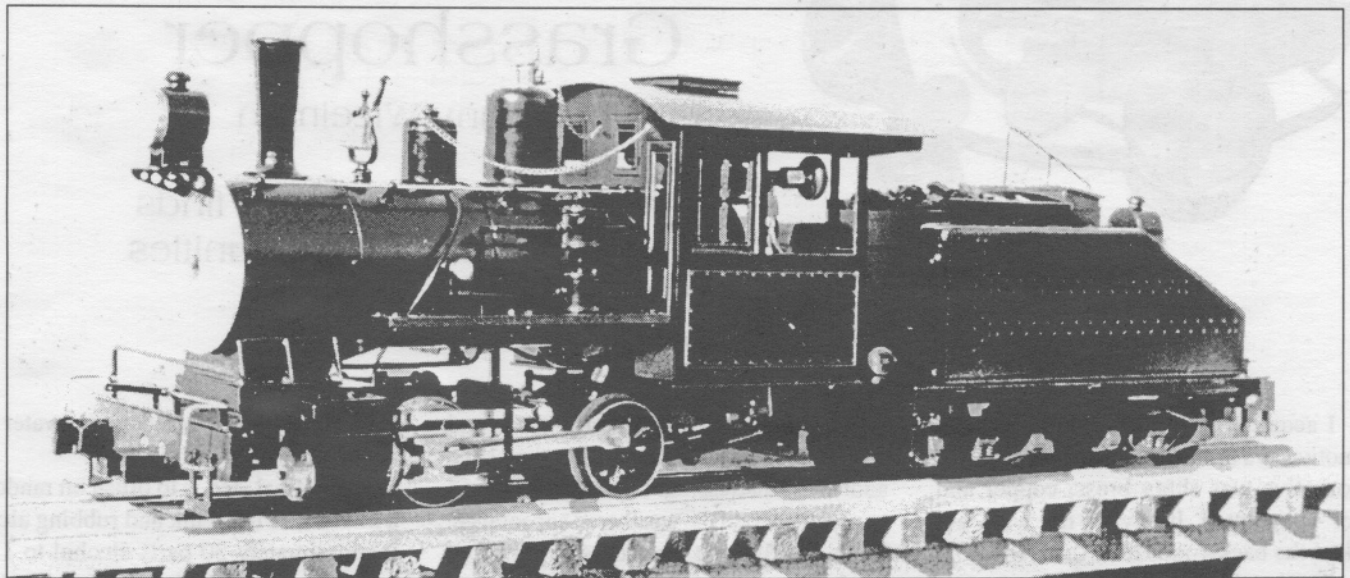
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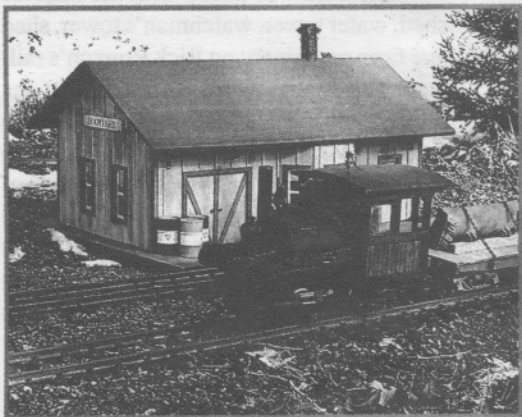
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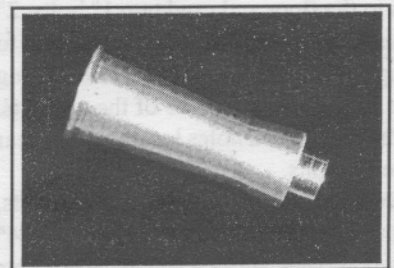
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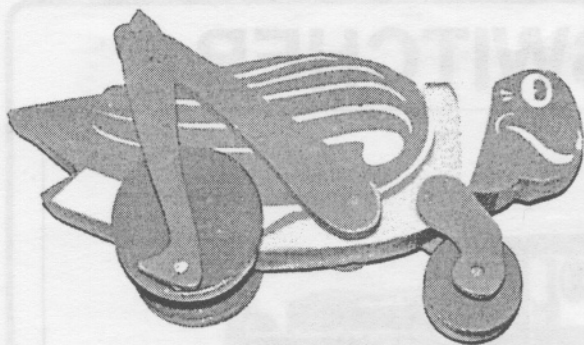
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# The Backwoods Grasshopper

by Sonny Wizelman

Aster's little beam engine finds new employment opportunities

I acquired the Aster Grasshopper locomotive as a built-up kit, ready to run. The locomotive was shiny brass, copper and steel - unpainted. It always ran well, but lacked the backwoods look that I like.

The inspiration for the changes came out of a conversation with Rick Runyon. He drew a rough idea for the frame and roof which got me rolling.

I began by removing the guard rail and the front and rear couplers. I made new end beams from 1/4" x 3/8" x 2-5/8" basswood and used the screws and holes (1-3/16" apart, centered L/R) from the original couplers to attach the beams. Next, the link and pin couplers were added.

The 4 upright supports are 1/4" x 1/4" x 3-1/2" basswood. I attached the uprights to the floor of the locomotive with #130 cable anchors that I found at a hobby shop that sells parts for radio controlled model airplanes. These anchors already have 2 holes, so I drilled a third and bent the anchor at 90° at approximately 1/3 of its length. I used the existing screws to attach them to the floor and used two 1" bolts, 2" nut and 3.5" washer to attach the anchor to the upright. For the front, I used existing holes located to the inside of the uprights. For the rear, I used holes located to the rear of the uprights.

Next are the two side roof supports, which are made from 1/4" x 1/4" x 3-3/4" basswood. They are attached to the uprights with wood screws. The screw heads are hidden with truss rod, nut, bolt and washer castings. The two end and one center roof support are made from 1/4" x 3/8" x 2-1/4" basswood. I notched the bottom 1/8" and rounded the upper 1/4" of the 3/8" pieces. They are attached with cyanoacrylate.

To age the wood, first draw the teeth of an X-acto® saw blade over all of the

exposed surface. Then, gouge the wood with a screw driver and a center punch for additional distressing. I use Age It Easy™ to give the wood the weathered appearance. Then, lightly sand the pieces to get rid of the fuzz, being careful to keep the grain.

The roof is made from corrugated steel stock. It is 5-5/8" x 3" with a 1" diameter hole for the smokestack. By accident, I found that A-West's Blacken It™ rusted the steel. The roof is made from various size pieces and includes a patch for added visual interest. I attached the pieces to each other and to the roof supports with cyanoacrylate. The six 1" bolts, 2" square nuts and 3-1/2" washers are for fastening the roof and for looks.

Now, remove the roof structure and prepare the locomotive for painting. Since the engine had been run many times, it had a good coat of oil and dirt. I cleaned the engine with solvent, being careful to remove all traces of grease and oil. I removed the wheels and masked the moving parts so they would not get any paint on them, which could cause a bind.

I painted the engine with Rust-Oleum® BBQ Black, which is resistant to the heat that the engine produces. Then, I used Rust-A and Black Wash to create the rusted look.

To make the couplers, links, pins, bolts, truss rod nuts, coal scoop, corn likker jug and head light look rusty, I first clean up the castings with a knife and file, paint with primer and then use Rustall, Black Wash and Dead Flat to create illusion of old and rusty. I also painted the spittoon, water bag, conductors lamp, bucket and the inside of the headlight.

Now, reassemble the wheels, reattach the roof structure, end beams and couplers. Attach the clutter parts with cyanoacrylate.

I used a rail spike to secure the water bag, coal scoop and green lantern.

The final step is to brush on randomly a mixture of India ink and rubbing alcohol (approximately 30 parts alcohol to 1 part ink) this really dirties up the wood and metal parts, settling into the grain to give the appearance of depth and age. I attached the headlight by drilling a hole in the top of the light and a corresponding hole in the front end roof support. A brass rod was used to attach the light to the support.

There is a small length of chain glued into the bucket which hangs over the edge. I believe in cluttering up a scene. Life is full of clutter, and so our models should be cluttered.

Now that the engine was completed, it needed cars to pull. The train consists of a tender, crane car, water car, four ore cars and a caboose. All have Gary Raymond™ wheels. They are all made from basswood, with lots of Ozark Miniatures™ detail parts.

The water tank is made from a piece of PVC pipe. All the metal parts are rusted and all the wood parts are aged, using the method I described for the locomotive.

The train was posed with the lineside shed, water tower, watchman's tower, shed and farm machinery on Rick Runyon's railway. The figures were placed so that the photos would have the feel of "a moment in time."

Thanks Rick Runyon for his inspiration and his help with the art direction, and to Steve Crise for his time, energy and skill in shooting the photographs on the front and back covers of this issue of *Steam in the Garden*.



## SOURCE LIST

Age It Easy ... Micro Mark  
340 Snyder Ave.  
Berkeley Heights, NJ 07922

Blacken It ..... A-West  
Box 1144  
Woodstock, GA 30188

Rustall, ..... Kuras Design Group  
Black Wash, 112 Point Lobos Ave.  
Dead Flat San Francisco, CA 94121

1/2" Scale ..... Russ Simpson  
Corrugated 1968 Cemetery Road  
Steel Stock Placerville, CA 95667  
.0015

Detail Parts ..... Ozark Miniatures  
Dept. RB  
PO Box 107  
Desoto, MO 63020

Link and Pin Couplers ..... OM-6EB  
Canvas Water Bag ..... OM-118  
Conductors Lamp Green ..... OM-29G  
Conductors Lamp Red ..... OM-29R  
Spittoon ..... OM-28  
Coal Scoop ..... OM-24  
Corn Likker Jug ..... OM-75  
Chain ..... OM-16-5B

1" Bolt, 2" sq. nut, 3.5" washer .... OM-07B  
Truss Rod, nut, bolt, washer ..... OM-08  
Bucket - from scrap box  
Headlight - ditto

#130 Cable ..... Proctor Enterprises  
Anchor, Brass 25450 N. E. Eilers Road  
Aurora, OR 97062  
BBQ Black ..... Rust-Oleum Corp.  
11 Hawthorne Parkway  
Vernon Hills, IL 60061

Lineside Shed ..... Railway Design Assoc.  
241 Silver Street  
Monson, MA 01057

Hardeeville Tank... Big Train Backshop  
#RBM B02 PO Box 991  
& Figures San Luis Obispo, CA  
93046

Figures ..... SLM  
PO Box 28047  
Baltimore, MD 21239

Figures ..... Miniature Plant Kingdom  
4125 Harrison Grade Rd  
Sebastopol, CA 95472

Wheels ..... Gary Raymond Wheels  
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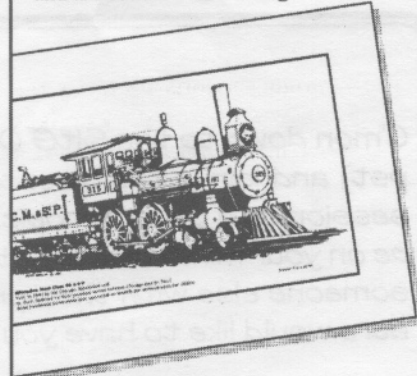
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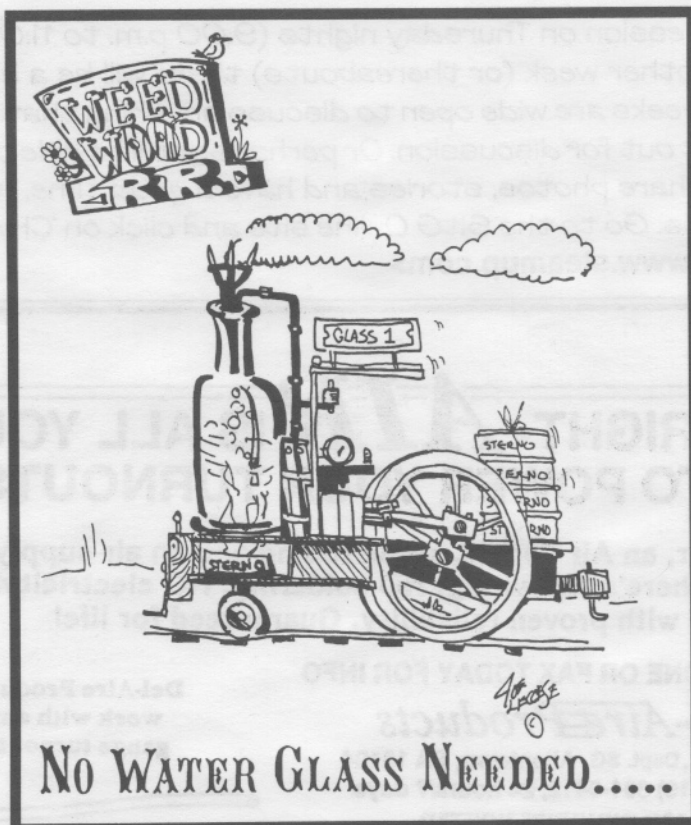
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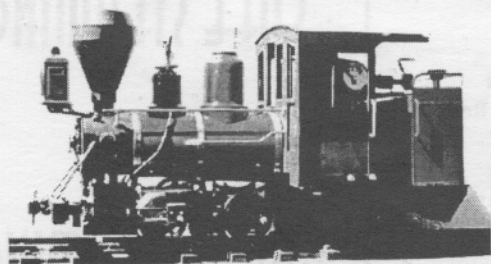
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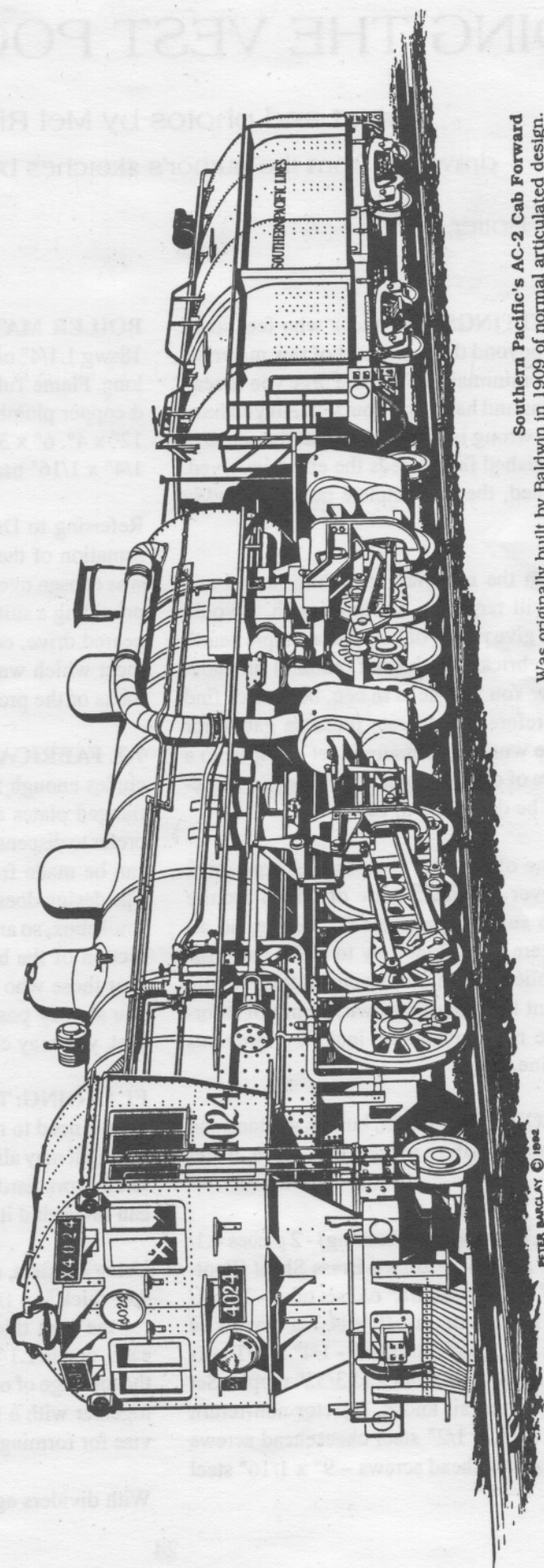
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# *Peter's Page*



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Number 4 of a series.



# BUILDING THE VEST POCKET CLIMAX

text and photos by Mel Ridley

drawings from the author's sketches by Harry Wade

## Section 7 – The Boiler (Part 1)

**7:0 BOILER and FITTINGS:** For those who feel small boiler work is totally beyond them, the cost of raw materials for the boiler proper is minimal and I would urge you to read through the instructions and have a go yourself. All you have to lose if things do go wrong is a little time, but the sense of achievement when finished far exceeds the effort involved. For those not convinced, then a complete boiler is readily available.

To build it, apart from the materials including turned and tapped bushes, you will require a gas torch with, I would suggest, a 1" nozzle to give plenty of heat and a simple hearth made from broken firebricks in a biscuit (cookie) tin about 12" across by 6" deep. You will need to beg, borrow or find a decent sized and preferably accurate pressure gauge for the hydraulic test. The working pressure is set at 60psi, so a minimum test pressure of double that is called for. Construction of the boiler will be described in full.

The Climax makes use of existing components from other manufacturers wherever possible, some of which require slight modification to suit our purposes. Therefore, no attempt will be made here to explain how to make these fittings, but a list of suppliers appears at the end of this section. For those who do want to make their own, plenty of information is, and can be made available, including previous articles in this magazine.

**COMPONENTS REQUIRED:** Boiler, burner, gas tank and valve, lubricator, regulator, safety valve, filler valve, water gauge.

**MATERIALS:** 20swg Brass Sheet (Cleaving) - 2 pieces 4.1/2" x 3.3/4" and 7.1/8" x 2.1/4" – 20swg Brass Sheet (Footplate) 10.1/2" x 3.7/8" – 6.1/2" of 1/8" o/d s/s tube – 2" x 1/4" round p/b – 2" x 3/16" hex brass – 9" x 14swg brass wire – 6" each of 3/32" and 1/8" copper tube – 2 - 1/4" x 40T nuts and 1/8" nipples – 1 - 3/32" x 40T nut and 3/32" nipple. Set of castings comprising handrail knobs, injector non-return and globe valves. 2 - 8BA x 1/2" steel cheesehead screws and nuts – 2 - 8BA x 1/2" hexhead screws – 9" x 1/16" steel rod.

**BOILER MATERIALS – SELF BUILD:** Barrel front - 18swg 1.1/4" o/d x 4" long. Rear - 18swg 2.1/2" o/d x 2.1/4" long. Flame Tube - 20swg 3/4" o/d x 6" long. 1 off - 1.1/4" o/d copper plumbers blank cap. 16swg or 1/16" copper sheet 12" x 4". 6" x 3/8" diameter p/b or brass round. 2" of 1/4" x 1/4" x 1/16" brass angle. Plus MATERIALS list above.

Referring to Drawing 7:0, the boiler is a simplified representation of the Haystack or Wagon-top design. Gas firing was chosen over alcohol because of complications in neatly providing a suitable burner and fuel feed system around the geared drive, coupled with a simpler internal flue arrangement which was imperative in retaining the narrow rakish looks of the prototype.

**7:1. FABRICATION:** The materials list for this section includes enough for flanged plates from 16swg sheet. Whilst flanged plates are accepted practice, for those who would prefer to dispense with this operation, a perfectly sound boiler can be made from discs for the throatplate and endplates. The design does, however, call for a flange to connect to the smokebox, so an alternative fix is offered, for which the front section of the barrel has been left deliberately overlength. (For those who choose the latter route, read it first - and if you already possess the kit, try it on a bit of scrap material first, you may change your mind).

**FLANGING:** There is no particular magic to this operation. All we need to remember is to anneal the material first, soft though it may already seem, and keep annealing several times as the work hardens until the flange is formed. After that, we can saw/grind it down to size.

Using dividers, mark out and make some hardwood formers 3/4" thick and 1/8" less in diameter than the plates, allowing for the wall thickness when formed. We'll require two of each, one is 1.1/8" and the other 2.3/8" o/d. Lightly chamfer the top edge of one of them, the anvil. These will be clamped together with a hefty 'G' cramp and mounted in the bench vise for forming.

With dividers again, mark out and cut three circles, two of

We will solder up in four stages. First the front tubeplate and filler plug, secondly the front of the firebox followed by the backhead, and finish with the turret and safety valve.

Using a simple biscuit tin forge, assemble the aligned components (excepting the turret and rear mounting flange) ensuring they won't slip out of position, place end up in the forge and surround pyramid fashion with broken pieces of firebrick. Make up a couple of loops of silver solder wire and, liberally fluxing the front tubeplate and filler bush, place in position. Bring up to heat and the wire will flash around the joints. Those that built the separate front flange and disc will require a third loop of solder on the inside. If you have any doubts about the joints, add more solder until you are satisfied. Unless you are skilled, let it cool well down first then quench in pickle to remove the oxides, and flux and wash with water. Repeat the process for the front of the firebox, checking alignment first.

Invert the assembly and, packing the same way, solder up the backhead ensuring the mounting flange is square. This needs to be held firmly in position by a piece of firebrick because as the flux heats up, the bubbles so caused will lift and move it out of position.

We can now finish off with the turret, safety valve and associated bushes. Clean up all the parts and lay the assembly down level in the forge. Place a few rings of solder around the bushes and turret and solder up.

**7:2:3 PRESSURE TESTING:** Whilst we can now fit most of the accessories and test the whole assembly, the writer prefers to pressure test the boiler at this stage by blanking off all the bushes except for the filler valve and test pressure gauge to save strip down and reassembly later on.

The pressure test must be a hydraulic one using water for safety as it will not compress and, in the event of failure, a small dribble issuing from the fault is all that will happen. **DO NOT UNDER ANY CIRCUMSTANCES** perform a pressure test with compressed air, as a serious explosion could result.

You will need an accurate pressure gauge reading up to 160/200psi, not the miniature one used in the loco. Fill the boiler full of water, expelling as much air as possible and, using a tender hand pump or water squeeze bottle, pump up to about 50psi. Look out for any weeps or leaks and if all OK, go up to 60psi. Examine again and then go up to 120psi (double the working pressure). Hold this pressure for three or four minutes and if all is sound, loosen off a plug and slowly reduce pressure to zero.

We can now fit the safety valve, pump up again, this time to

60psi on the master gauge and cross check the reading of the small gauge. It may well be inaccurate, so record the difference for future reference. You can, if wanted, remove the cover and glass, and make a small red indication at the correct 60psi mark.

**LOCATING THE BOILER:** The front flange protrudes 1/8" and locates in the recess of the smokebox casting. If necessary, file and trim the flange to fit. The small gap will later be hidden by the cleading. Centre the boiler on the chassis and pop two holes in the rear mounting flange 1.11/16" apart coinciding with the frame members. Drill 3/32" 8BA clearance holes and scribe through onto the frames. If the angle bracket is not on centreline, adjust for it accordingly. It is important for the boiler to sit centrally on the chassis, but any lateral misalignment of the bracket will be unseen when fully assembled.

The final bit of surgery on the boiler is to match the smokebox cutout on the underside and remove that section of flange back to the barrel in order to leave room for coupling the superheater to the steam pipes.

**7:3. FOOTPLATES:** In order to accurately place the boiler in correct vertical alignment, we will make up the footplates now. We will require the rear one anyway to mount the gas control valve and associated parts when we come to the boiler fittings and, as this is a sheet bashing job, we'll also do the front footplate at the same time.

From 20swg brass sheet, cut two pieces. The rear, 7.1/2" long x 3.7/8" wide and the front 2.15/16" long x 3.7/8" wide. Mark out and drill as per Drawing 7:3. Note location of the hand-rail knobs and that the centre ones are soldered in position as a locating device. They will both require further drilling operations when we come to the cab and bunker.

**7:4. BOILER FITTINGS:** As mentioned at the beginning of section 7:0, the boiler makes use of existing components, some of which will require slight modification to better suit our purpose. These, together with the U.K. manufacturers names are listed hereunder.

**BOILER COMPONENTS:** From Finescale Engineering - Regulator (Wire Type), Safety Valve, Filler Valve, Burner, Gas Tank and Regulator, Lubricator. From Fyne Fort Fittings - Water Blowdown Gauge. From Reeves and Co. - Pressure Gauge. Willow Works in the USA (see ad in SitG) has many of these parts & fittings available.





4" dia. for the throatplate and backhead and one 2.3/4" dia. for the front tubeplate. Anneal by bringing up to bright cherry red and quench in water.

Mount the assembly in the vise, centering the piece by eye - we'll carve it up to size later - and gently begin tapping and following around the periphery as you go. An angle of about 10° to 15° will probably be made on the first pass. Depending on how you administered the blows, you should get another pass bringing it round to about 40° before re-annealing. You may need at this point to trim off some of the surplus flange, particularly with the smaller piece. Continue the process until a good fit is obtained in the barrel. It has to be a close fit because, unlike other types of solder, silver solder doesn't like to fill holes and gaps. Trim the larger with a flange depth of no less than 1/8". The front tubeplate requires a flange 1/4" deep to leave 1/8" proud when fitted. You can now finish them off using the anvil only and try for fit.

Now for the two shells. Trim down to size as per drawing and dress any rough edges, remembering the front section is 1/4" overlong to cater for the non-flange brigade. This is easily done with a tube cutter but do it very gradually to reduce the inner swage which requires removal.

Those who skipped the flanging process can now trim their plates down to size. The front one needs to be a good clean push fit, inserting and then rocking into position. The larger two should be 2.9/16" o/d for a clamp fit either side of the rear shell, the front end of which will be trimmed later. You can, if you want, sweat them to a mandrel and turn in the lathe (very gently, using a sharp tool and cutting fluid), or fret out with a piercing saw and then file down to size.

**7:2. BUSHES:** The boiler calls for seven bushes; five for the safety valve, water level gauge (2), filler plug and whistle screwed 1/4" x 40T, and two for the regulator and pressure gauge screwed 3/16" x 40T. The whistle bush is there as an optional extra and plugged, but we may as well make it, as the effort involved in producing it and sweating to the turret is minimal, and it may come in useful at some time if you want to upgrade.

I would suggest bronze or gunmetal for the bushes. Brass is suitable though it has been proven that under high temperature and pressure, particularly if certain mineral compounds are present in the water, elements within the alloy can break down over an extended period of time.

From 3/8" material, turn all the bushes down to 5/16" o/d by 1/4" long, leaving a 1/16" flange. Drill and tap according to need. The whistle bush can be plugged by turning down a piece of 3/8" or 1/2" hex brass, threading 1/4"/40T for 1/4"

and leaving 3/32" on the end for a spanner.

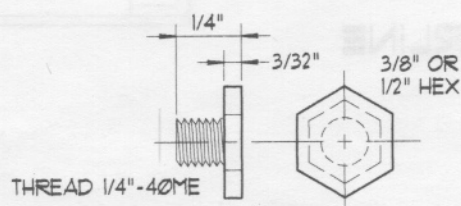
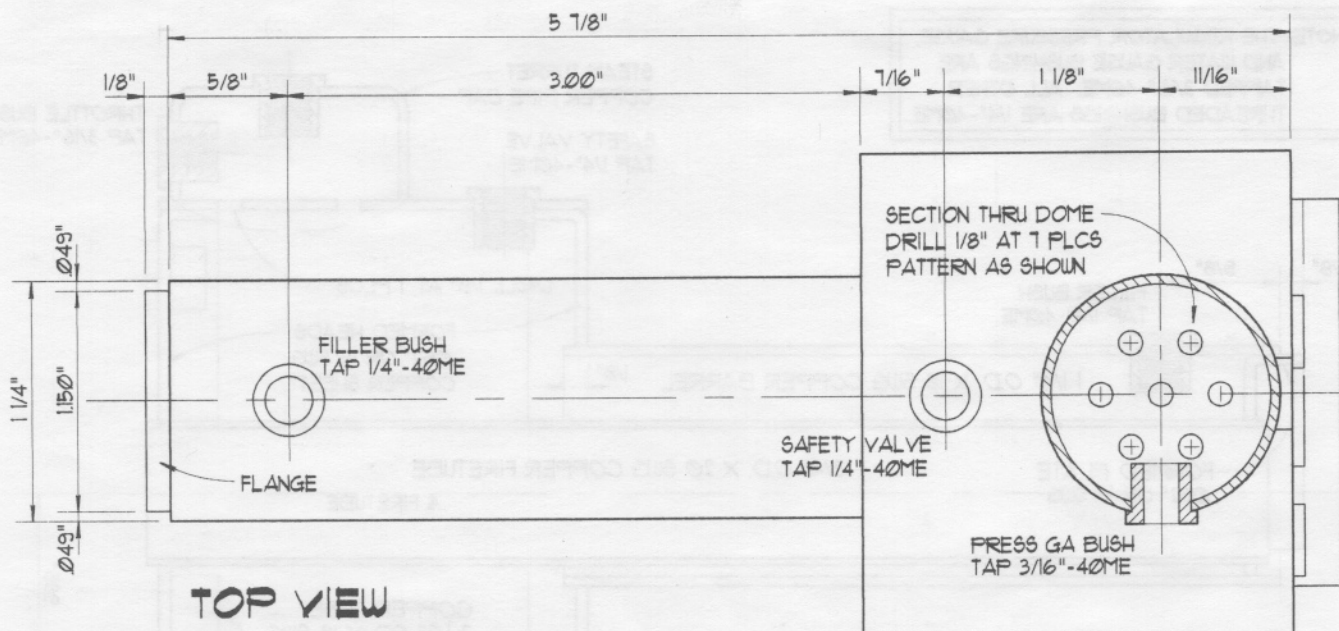
**7:2:1. DRILLING FOR BUSHES, ETC:** All holes are drilled 5/16". Scribe a centreline down both boiler sections. Do the same for the flanged plates which will become a matching vertical line on assembly. The front section calls for one hole for the filler plug 5/8" in from the front of the boiler shell, not the protruding flange. The rear section calls for one hole 7/16" in from the front plus a series of holes of 1/8" diameter to admit steam into the 1.1/4" o/d turret. (detail 7:2:1.).

The flange plates need to accommodate the 3/4" o/d flame tube so mark off the centreline and scribe a circle just under 3/4" diameter. The easiest way is to use a 3/4" 'Q Max' cutter, but failing this, mark and drill a pilot hole near the edge and, using a piercing saw, gently fret around within the periphery and dress with a fine Swiss file, ensuring a good fit. The backhead also calls for a couple of holes for the water gauge. No dimensions have been given here but they need to be as far apart as possible, a maximum of 1.3/4" without interfering in line with the gas burner or superheater manifold. (See Drawing 7:0). Additionally, we have to scribe a horizontal mark 1/4" up from the base for the mounting angle bracket.

**FRONT TUBEPLATE - NON-FLANGED:** Make a cut through the 1/4" section left over from the front part of the barrel and inserting it, mark off and remove excess material to form a separate flange. The flametube needs to exit with approximately 1/16" left on the side of the disc, i.e. same as for the flanged plate.

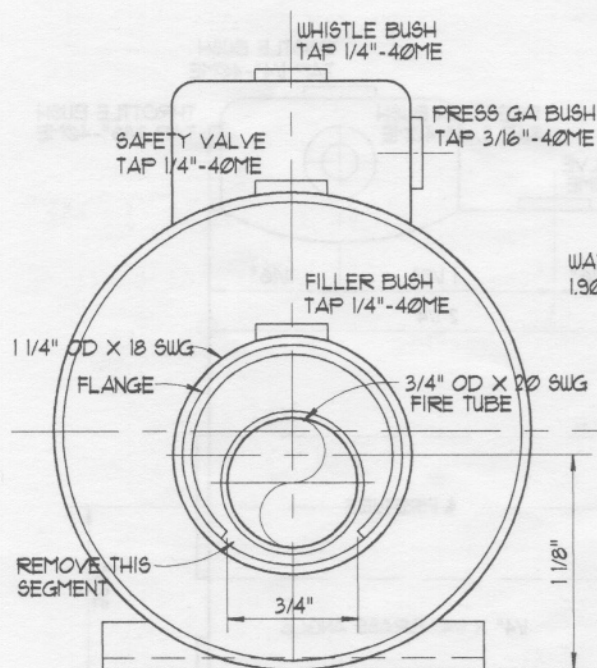
**TURRET:** Radius the base of the turret by grinding or filing for a good fit on the rear shell. You can then mark out and drill locations for bushes. See Drawing 7:0.

**7:2:2. ASSEMBLY and SOLDERING:** We can now start to assemble the boiler, first ensuring all the components for it are clean. As we will be pickling the assembly after each stage, we can use the PICKLE BATH now to clean everything up ready for soldering. The pickle is generally a dilute mixture of Water and Sulfuric Acid as used in automobile batteries. We can also use Formic Acid available from hardware stores as a cleansing agent in domestic cookers. Remember, if you make your own brew using acid, **ALWAYS ADD THE ACID TO WATER, NEVER WATER TO ACID.** (Specific gravity around 1250). You can store pickle in a glass or polyethylene container, and an old polyethylene washing-up bowl makes an ideal bath. Also have a bowl of plain water to hand for rinsing off afterwards as well as diluting possible spillage on your person.

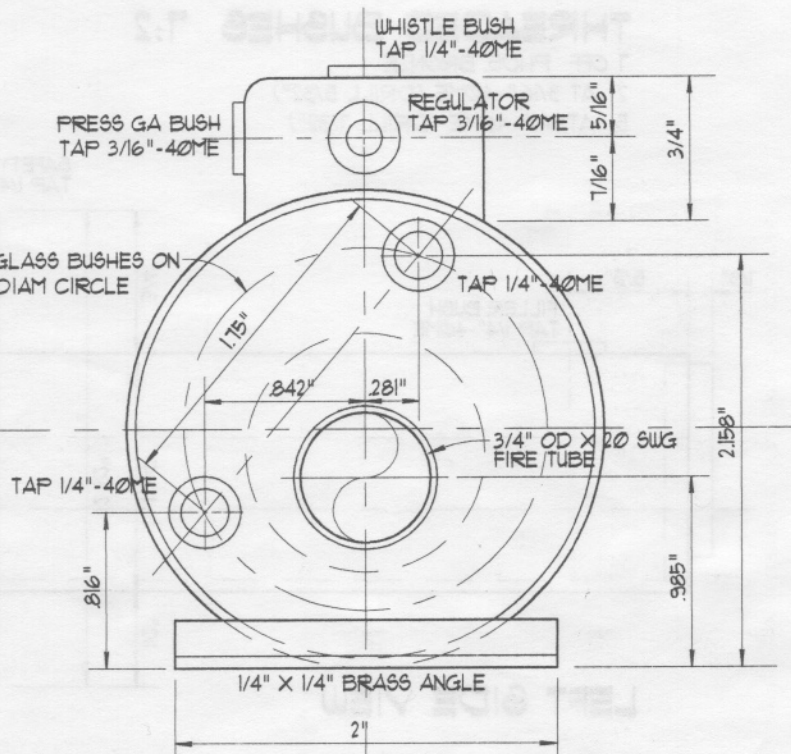


### WHISTLE PLUG 7:2

1 OFF 3/8" OR 1/2" BRASS HEX



### FRONT VIEW



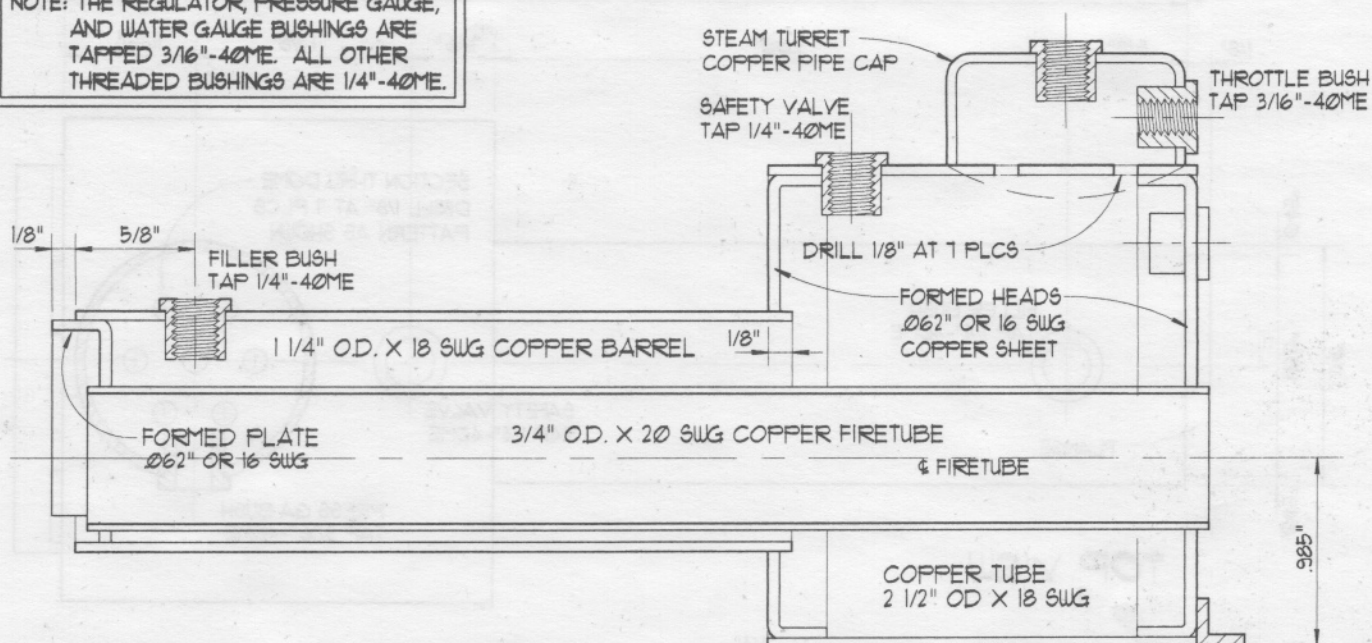
### BACKHEAD VIEW

UNLESS SPECIFICALLY NOTED,  
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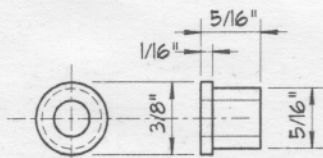
Locomotive design by Mel Ridley  
Drawings Copyright © 1998 by Harry Wade



NOTE: THE REGULATOR, PRESSURE GAUGE,  
AND WATER GAUGE BUSHINGS ARE  
TAPPED 3/16"-40ME. ALL OTHER  
THREADED BUSHINGS ARE 1/4"-40ME.

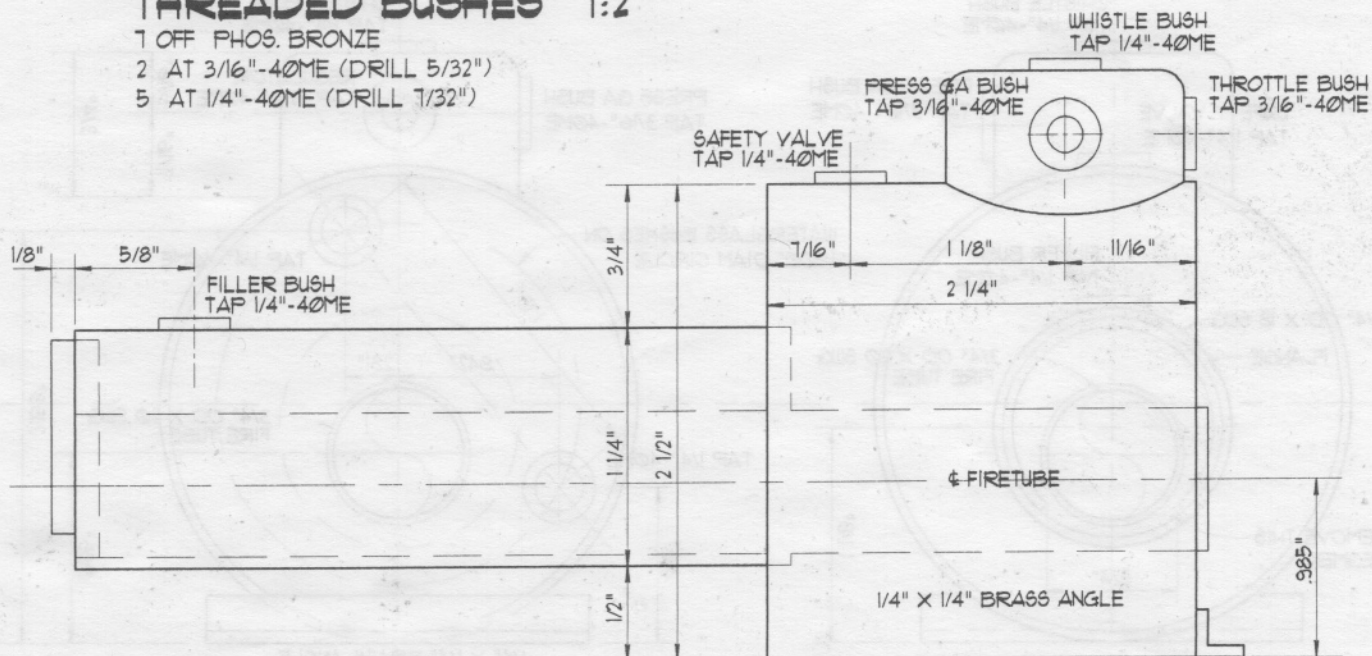


SECTION AT CENTERLINE



### THREADED BUSHES 7:2

- 1 OFF PHOS. BRONZE
- 2 AT 3/16"-40ME (DRILL 5/32")
- 5 AT 1/4"-40ME (DRILL 7/32")



LEFT SIDE VIEW

UNLESS SPECIFICALLY NOTED,  
ALL PARTS ARE DRAWN FULL SIZE.

Locomotive design by Mel Ridley  
Drawings Copyright © 1998 by Harry Wade





# Give Your Porter the Voice It Deserves

text and drawing by Larry Bangham

(illustration at left by Jim Elliott)

Let's talk about that valve...

My apologies are offered to those of you who installed a Harmonic whistle on your Hemmens Porter, only to be frustrated by its poor performance. I hope that there weren't a lot of you, because not being familiar with the device you would have no way of knowing whether it was your fault or mine. It's mine...I am the guilty one.

The prototype whistle for the Hemmens Porter (Harmonic Steam Whistle Revisited, SitG N° 40, May/June '97) was made back in February of '97 and was later acquired by Don Plasterer out in Michigan. In November I received a package from Don, and a note asking if I would check the whistle out, as he had never been able to get a good sound out of it. By this time I had acquired a Porter of my own, so for the first time I was able to blow the whistle on the engine it was intended for. Not a good way to do engineering. Anyway the result of the testing that I should have done months ago is that the whistle valve and tubing are incapable of passing enough steam to operate the whistle properly. Fortunately the fix is not too difficult and can be accomplished with hand tools if necessary. As a minimum the valve needs to be reworked. The change in tubing will improve performance but depends upon the preference of the user.

The valve rework involves reducing the plunger diameter in the area of the O-ring by about .012 – from .062 to .050 (Fig. 1). The plunger can be turned down by placing a Dremel™-type tool or drill motor in a vice and using a small triangular file – or the preferred way, in a lathe. A drill press could also be used. The plunger material is brass so it removes easily.

The valve is mounted to the deck plate

with a single screw, 1/4 hex. The tube compression nuts are also 1/4 hex. The valve, cam, and servo control rod can be removed as a unit by pulling the servo arm from the splined shaft on the servo. Note the position of the arm for reassembly. Remove the valve rear plug for access to the plunger. Hold the valve with the plug end up and carefully back out the plug. You will see the end of the plunger and a small spring on the shaft. With tweezers you can remove the spring and the plunger. The small O-ring may come out on the end of the plunger. If not, you will see the O-ring in its seat at the bottom of the bore. If you have a 1/16" collet for your Dremel or lathe this would be the preferred method of securing the short end of the plunger. On the lathe, make sure your cutter is sharp and is located on the center line. Advance the tool in small increments no greater than .002 or .003. On the Dremel or drill press use a sharp, small triangular file and take light strokes, staying away from the sealing flange. The finished diameter can range from .045 to .052. Also the area at the bottom of the slot where the cam operates should be free of any burrs or protrusions that might limit the plunger travel.

The change in tubing involves using 1/8" I.D. neoprene vacuum hose on the whistle and wiring it directly to the valve outlet nipple. For the valve inlet tube use K&S 3/32" O.D. x 1/16" I.D. copper tube in place of the heavy wall Hemmens tube. The ferrules on the Hemmens tube are silver soldered on but can be salvaged by cutting them off and drilling them through with a .067 drill. Clean out the back end with a .093 drill. Soft solder the ferrules on, not forgetting to install the compression nuts,

and you should be back in business.

By doing all of the above rework, the whistle should start blowing at 30 psi with 1.1/2 to 2 full turns of the regulator. If you elect not to change the inlet tube it will start blowing at about 35 psi. If you use both the stock inlet and outlet tubes it will start blowing at 40 psi and will be restricted in volume.

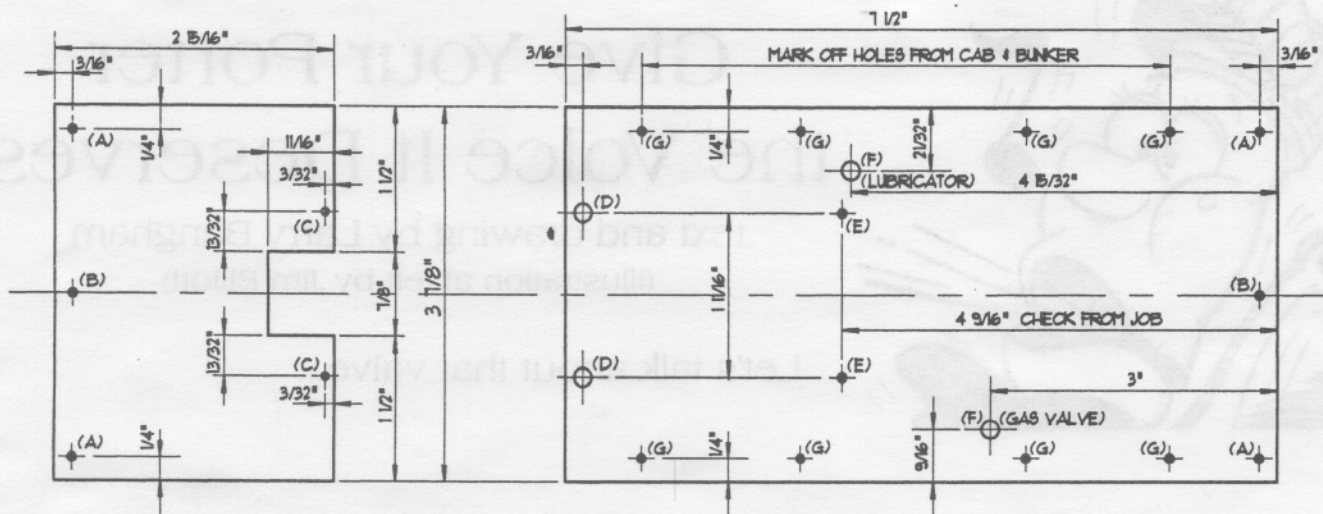
Just as a sidebar, if you have made the Harmonic whistle and have trouble keeping the tubes in adjustment, you can secure the aperture and inner tubes with CA adhesive. Use wicking action only on the exposed ends after assembly. If you need to remove the aperture, a tap on the inside face using a plastic rod and small hammer will break it loose. Leave the outer resonator tube a slip fit.

After you have done the rework, try blowing the stock Maxwell Hemmens whistle. Adjust the gap to .100". You will be surprised...and so will the dogs in the neighborhood. Until next time...

Happy Quilling







**FOOTPLATES 7:3** 1 OFF EACH 14 SWG BRASS DRAWN ONE HALF FULL SIZE

### SCHEDULE OF DRILLED AND TAPPED HOLES

OPERATION 1	MARK	OPERATION
	A	DRILL 3/32" TO CLEAR #3 BA. SPOT THROUGH TO PILOT BEAM FOR DRILLING AND TAPPING THE PILOT BEAM FOR #3 BA HANDRAIL KNOBS. SEE SECT. 7:3
	B	DRILL #50 THROUGH AND TAP #3 BA. SOLDER IN HANDRAIL KNOB.
OPERATION 2	C	DRILL #50 THROUGH TO CLEAR #10 BA. SPOT THROUGH TO CHASSIS AND DRILL #50.
	D	DRILL 3/16" TO CLEAR #3 BA GEARBOX NUTS. CHECK CLEARANCE FROM THE JOB.
	E	DRILL 3/32" FOR BOILER FLANGE MOUNTING SCREWS. REFER TO SECT. 7:2:3.
OPERATION 3	F	DRILL 3/16" FOR LUBRICATOR (L.H.) OR FUEL VALVE (R.H.) CHECK FROM JOB.
	G	DRILL 3/32" AT 8 PLCS FOR (FUTURE) CAB AND BUNKER ATTACHMENT. SPOT LOCATIONS THROUGH FROM THE CAB AND BUNKER MOUNTING FLANGES.

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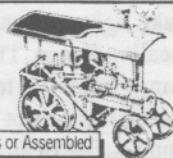
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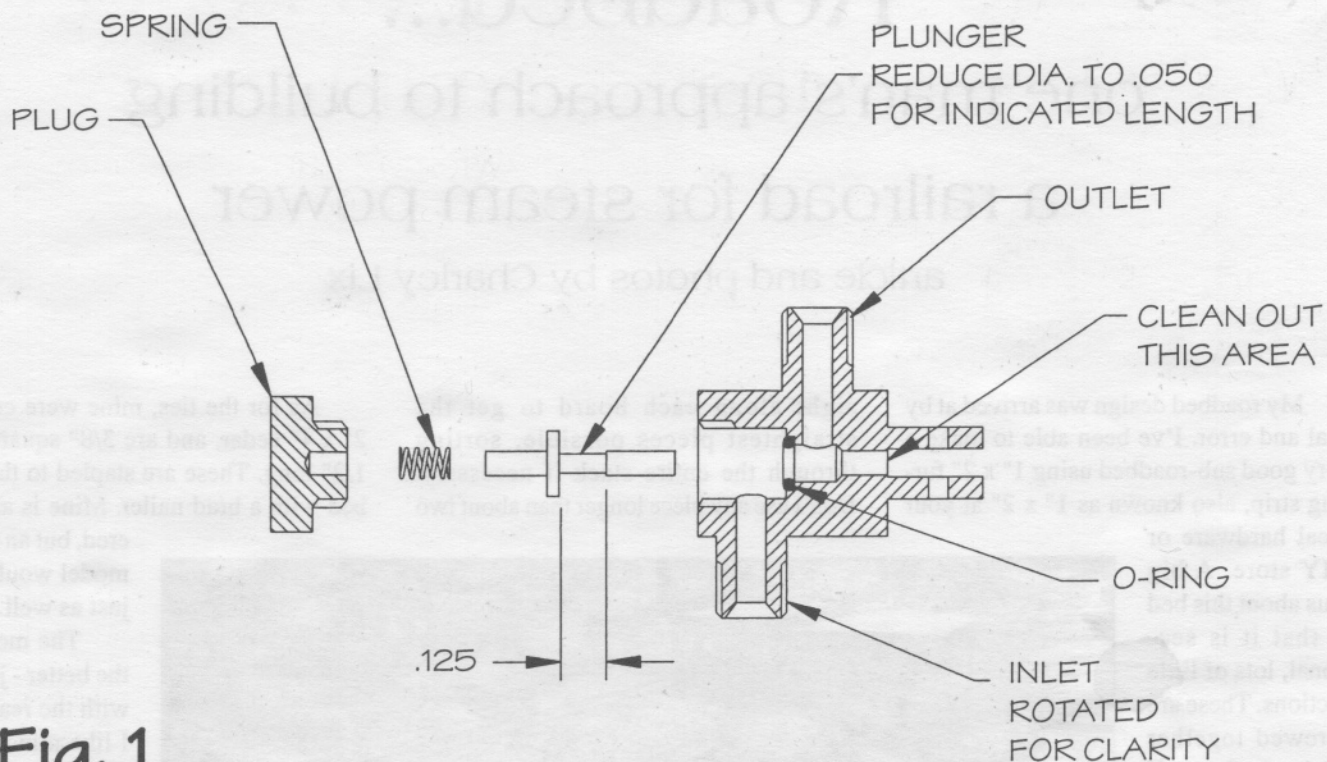
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**Fig. 1**

## HEMMENS PORTER WHISTLE VALVE REWORK

L. BANGHAM 11-15-97

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# Roadbed...

## one man's approach to building a railroad for steam power

article and photos by Charley Lix

My roadbed design was arrived at by trial and error. I've been able to make a very good sub-roadbed using 1" x 2" furring strip, also known as 1" x 2" at your local hardware or DIY store. A big plus about this bed is that it is sectional, lots of little sections. These are screwed together with drywall screws, four screws to a joint to maintain alignment. I drill two holes and set only one screw to start so I can align the roadbed to the desired course. When the course is okay, I'll drive the other screw to fix it permanently.

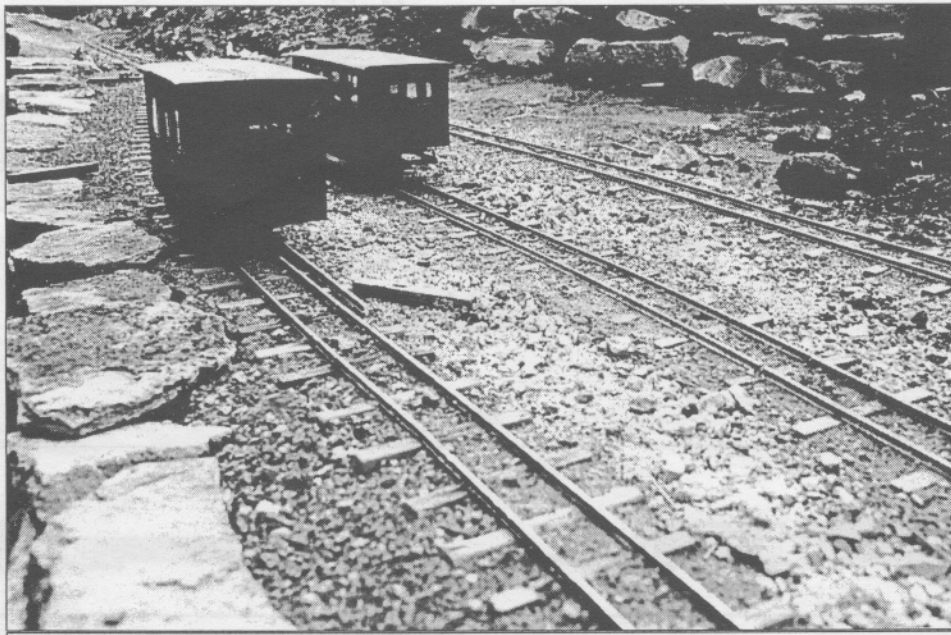
Screwed to what, you say? Well, the top of the roadbed is pieces of 1" x 2" set end to end, and at each joint another piece of 1" x 2" is used beneath them, so the screws are used to attach the roadbed to the splice piece, while a pair of visegrips are used to clamp the pieces together, maintaining the desired alignment while the screws are driven home.

Warp and an un-level side to side condition are the worst enemies of the tracklaying crew. To alleviate this problem I've become very particular about the wood used, and very careful while putting it all together. At your wood store,

sight along each board to get the straightest pieces possible, sorting through the entire stack if necessary. Don't use any piece longer than about two

As for the ties, mine were cut from 2" x 4" cedar, and are 3/8" square by 3-1/2" long. These are stapled to the roadbed with a brad nailer. Mine is air powered, but an electric model would work just as well.

The more ties, the better - just like with the real thing. I like mine on two foot centers (scale two foot, that is), and that's marginal for good track. I use code #215 aluminum rail sold by Llagas Creek. It's inexpensive and very easy to work with. I used to spike about every ten inches, but the steam locos spread the rail, so now I'm spiking every fourth or fifth tie, and more closely than that in curves



Notice the realistic appearance of the track on the author's line. A tie here and a section of rail there - typical railroad clutter - do a lot to enhance the illusion that this is a real, working railroad.

feet. Cut good, straight two foot pieces out of your eight footers.

Also, you'll need about half the number of pieces about ten inches long as joint splices. These should also be as straight as possible.

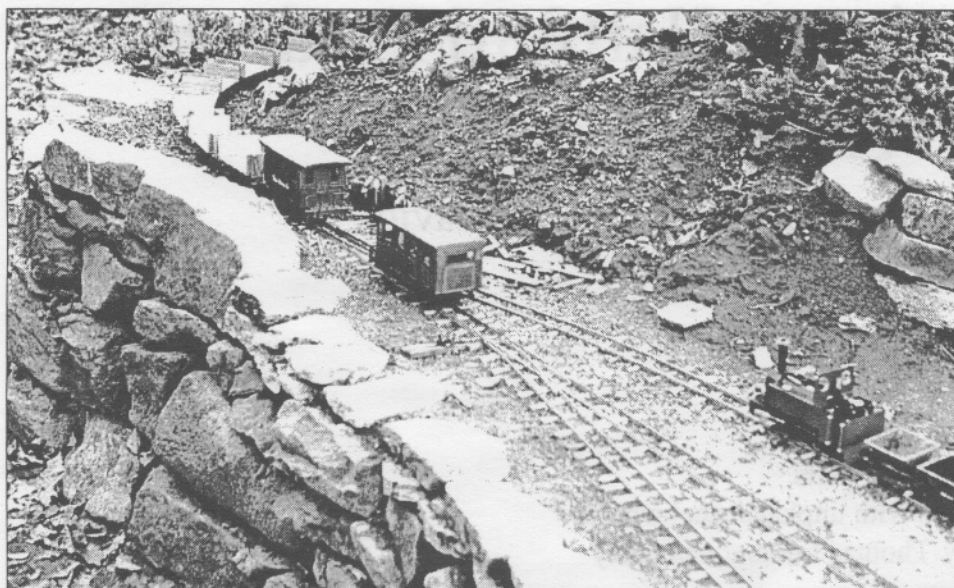
The structure can be built on a level cement surface (patio, driveway, sidewalk) and very easily moved into position. The spiking of the track to the roadbed should wait until the track has been ballasted to prevent the spikes from pushing the ties off to the side.

or trouble spots.

I tried the short spikes (3/8"), but have now gone to 1/2" for a better bite. Once there, it stays put.

A track gauge made entirely of wood, with a 32mm piece to it and chamfered to clear the rail base, keeps everything in gauge.

The aluminum rail has a high coefficient of expansion, so it's necessary to have expansion joints about every two feet in sunny areas. I make these the same way I make the rail joints, by spiking eight



Revenue service on the author's Excelsior Ditch Co. Railway in Sparks, Nevada, near the better known city of Reno. Charley likes to say that, "Reno is so close to Hell that you can see Sparks!". A string of empty pulpwood cars and logging caboose slowly move through the curve, while a passenger-hauling railcar and an IP Engineering JANE with a string of tipper cars wait somewhat impatiently. Has anyone noticed yet that this railroad is 32mm, or gauge 0?

applied to the wood.

The most excellent part of the whole thing is that with my little trowel I can excavate around the roadbed, remove some screws and lift a section out to work on it or replace individual ties.

Just like a real railroad, it does need some maintenance from time to time, and I keep a box with a few ties, spikes, some pliers and my handy-dandy track gauge nearby.

A word about rail joints. Lousy joints were okay for battery powered rigs and the odd railcar, but steam locomotives pound every rail joint they don't like, so careful alignment and a light touch with the grinder along the inside of the railhead at each joint is in order.

Finally, my locos are meths-fired and I'm a bit exuberant, so the ability to blow out the fire on the tracks is good, and the charred ties just add flavor and character. And as I said, individual ties are easily replaced.

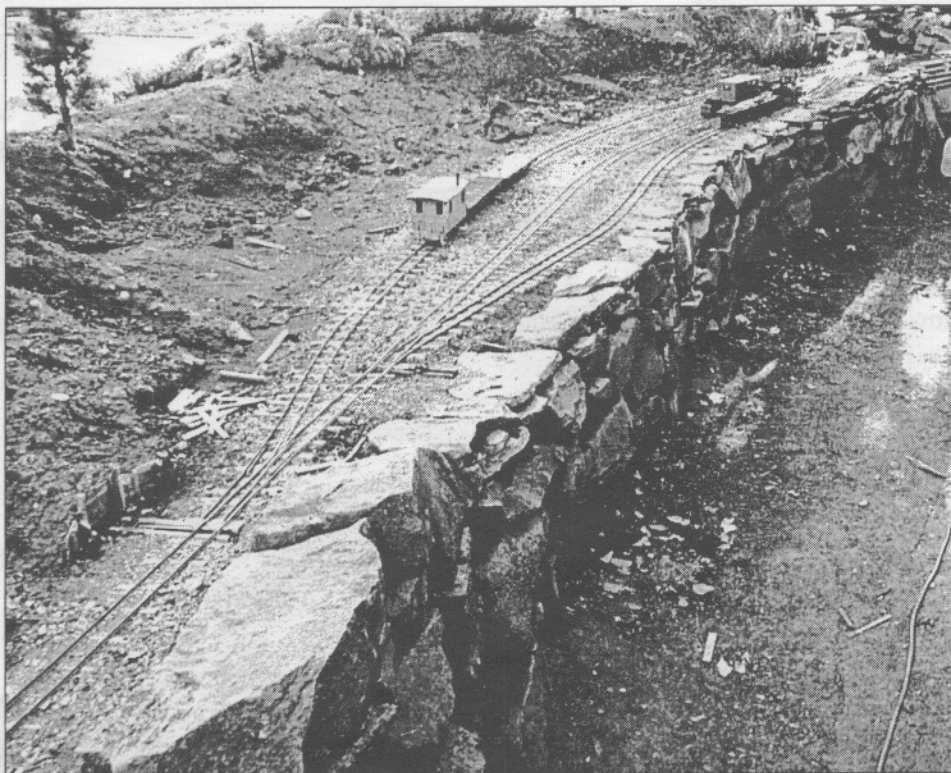


spikes in a good tie (four spikes for each rail), and two spikes for each rail in each adjacent tie, and then slicing the rail cleanly with an abrasive cutoff wheel, right down between the spikes.

There are no rail joiners or wiring on my railroad! I've built switches using the same method (article to follow if anyone is interested in my switch building methods) with no alignment problems.

Now for line and level – I had problems with the track tilting to one side or the other, and found that this is due mostly to shoddy construction techniques. Take care in building and use shims under ties as necessary to maintain level track. The outer rail can be slightly elevated on sharp curves using the same method.

This same type of roadbed was in place for two years on a previous line, and when it was torn up the wood was still in mint condition. This without using any preservative. Well, okay...I live in a fairly dry climate, but I believe that even in those parts of the world where the climate is much wetter (Pennsylvania, for example), this system would work well with some sealant or preservative



Similar to the scene above, but looking back down the line in the opposite direction. This railroad is obviously a labor of love, with the accent on labor. The author hauled a lot of stone and dirt for this raised bed line, but anyone who has seen it will tell you that it was worth the effort.



# Product Review – Hartford Products’ Ely-Thomas Log Car

review and photos by Jim McDavid

**Scale/Gauge:** 1:20.3 scale, Gauge 1

**Features:** Custom cut wood parts  
High quality cast metal detail parts  
Duro cast arch bar trucks with unplated steel wheels  
Brief history of the Ely-Thomas Lumber Company

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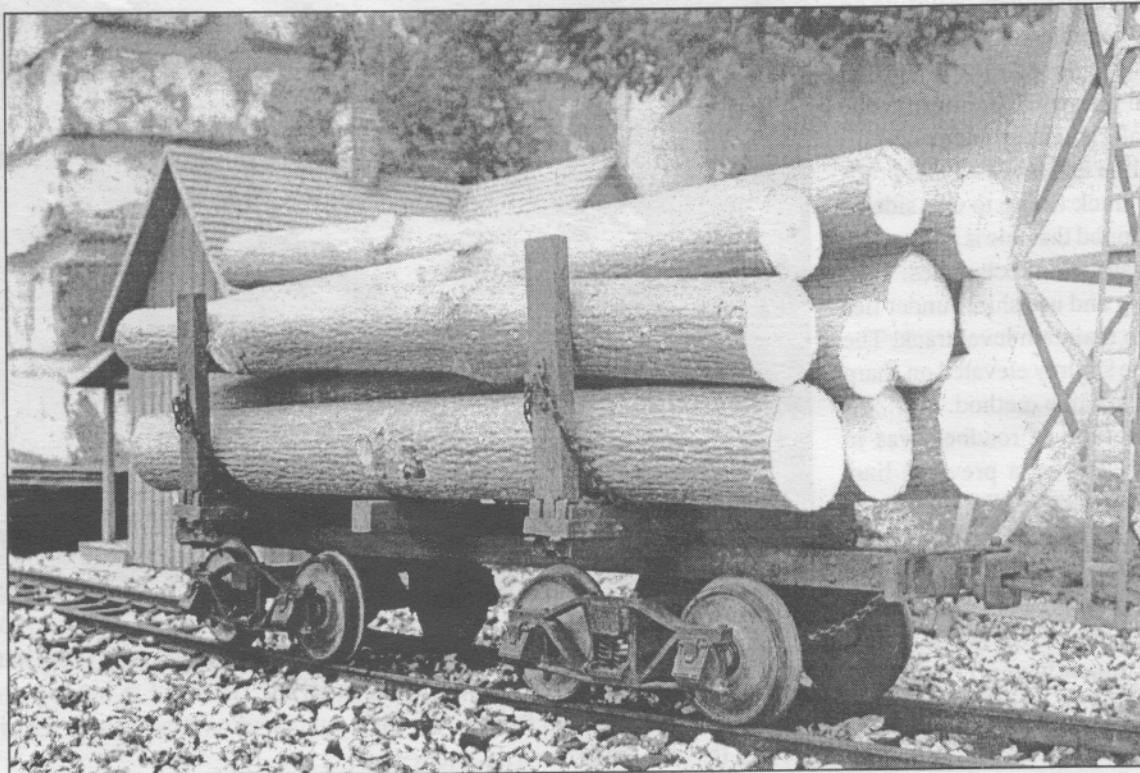
Ely-Thomas Lumber Company operated in Nicholas and Greenbrier Counties, West Virginia, from 1938 to 1967. They

operated both a standard and narrow gauge railroad, using Shays and at least one 36" Climax. The 3 foot gauge logging railroad, which operated from 1947 to 1955, used a diminutive 20 foot

long skeleton log car, operating on an 18 mile long spur which ran into the hills southeast of Jetsville, West Virginia. It is

this log car that Hartford Products models in their newest release in 1:20.3 scale.

Before we go on with the review I would like to say a little about the book from which I gleaned the above informa-



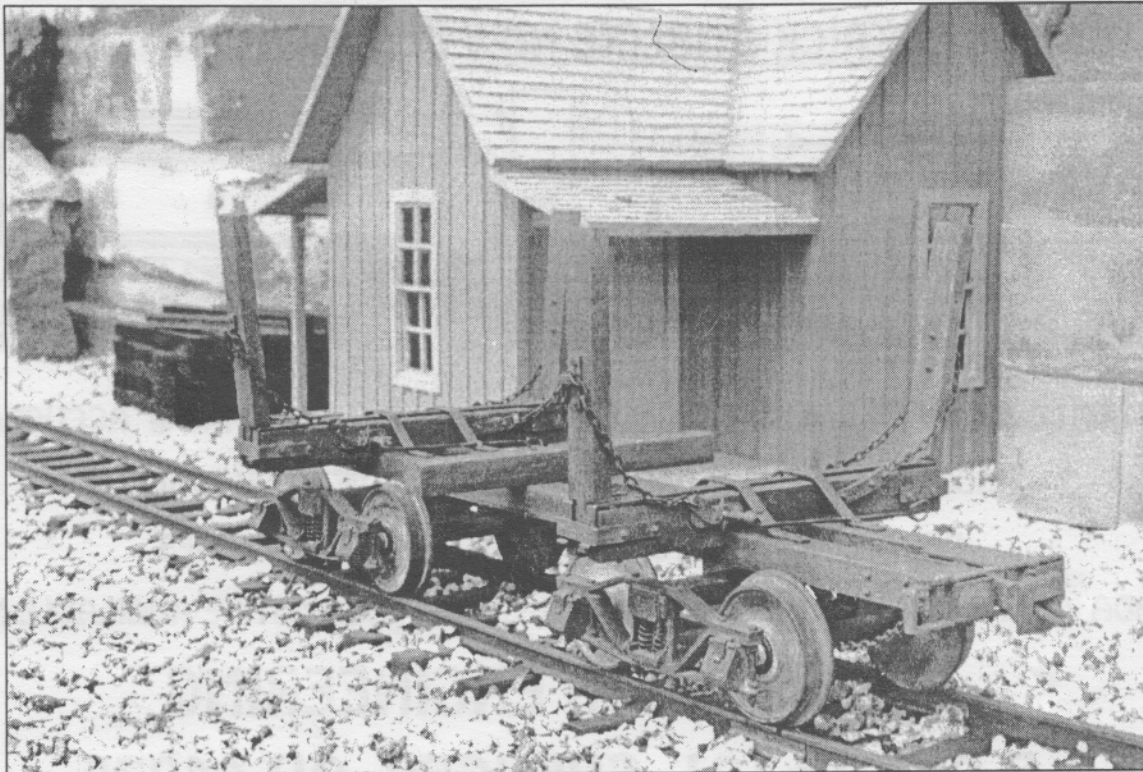
tion. William E. Warden, in his book *West Virginia Logging Railroads*, does a superb job of bringing the logging railroad to life. In the book he chooses 5 railroads, out of the over 100 that operated in the mountains of West

Virginia. Then, through a brief but in depth history, with excellent maps and many wonderful photographs of each, he takes the reader back in time to the days when timber was king and geared locos ruled the woods. The Ely-Thomas Lumber Company is one of the five logging outfits covered in this book. There are quite a few photographs of their log car, both loaded and empty, which made for a good reference while building this model. If I had but one logging railroad history book in my library - it would be this one.

As usual, Hartford Products includes a tools and materials list, a parts list, full scale CAD drawings and step-by-step instructions. Photographs of the prototype car taken at the Cradle of Forestry Museum were also included.

This is a very simple kit to assemble. Most of the assembly time being taken up by finishing and weathering of the wood and metal parts. I chose to paint and weather this kit as per the prototype shown in a color photograph on page 107 of William Warden's book. I started by putting several thinned washes of boxcar red on all wood parts, except for the log stays. I then used a hobby knife to make some scratches and gouges in the wood. A coat of Weather-it was then brushed on all wood parts, including the log stays. The wooden log stays on the prototype were unpainted, probably due to frequent replacement.

The trucks supplied with the kit are Hartford Products' standard arch bar trucks with 24 inch wheels. No brake rigging is supplied with the trucks, but a brake detail kit can be purchased separately from the manufacturer. The kit also comes without couplers. Hartford Products recommends Kadee 820 knuckle couplers, or the more prototypical link



and pin coupler. Both are available at extra cost from Hartford Products. I had a set of Hartford Products' fully sprung link and pin couplers on hand so my choice was an easy one.

All of the metal parts were

treated with Blacken-It before assembly. The kit was assembled using a thick slow setting ACC. The hard part here is keeping excessive glue off of the small detail parts. This is an art which I have yet to master, so I keep a small knife and some toothpicks handy to immediately remove any glue that may be squeezed out in assembly. A coat of Rust-All on all the metal parts and any other weathering you may wish to do, followed by a light spray of Dull-Coat and you're finished.

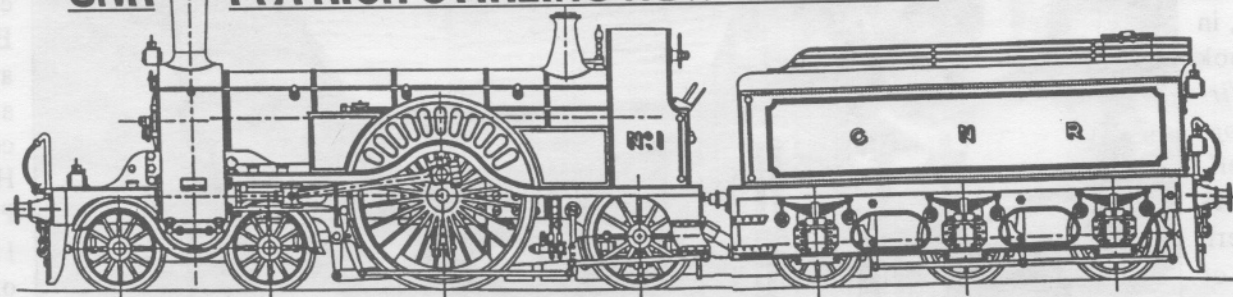
The completed model measure 3.4" wide by 11.8" long by 4" high over the log stays. The kit is an almost perfect replica of the prototype and, like the original, it has a lot of character. I can picture it on a short trestle over a small mountain stream, being pulled by a geared loko in the mist of an early West Virginia morning. (Or even *through* the stream, as the Elk River Coal and Lumber Company did. Now there's a modeling idea perfect for our corner of the hobby.)

This is another superb model from Hartford Products, suitable for any pike needing some log cars for the run from the woods to the mill. Add a load of West Virginia hardwoods in the one to two foot range and - almost heaven!





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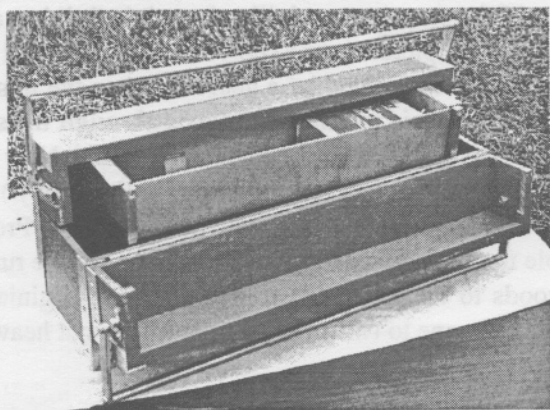
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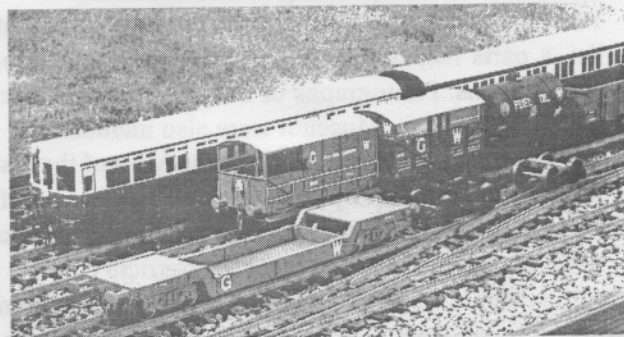
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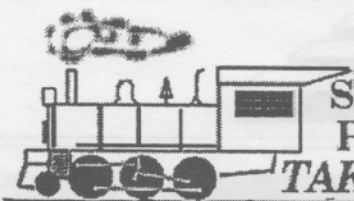
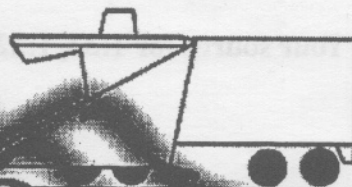
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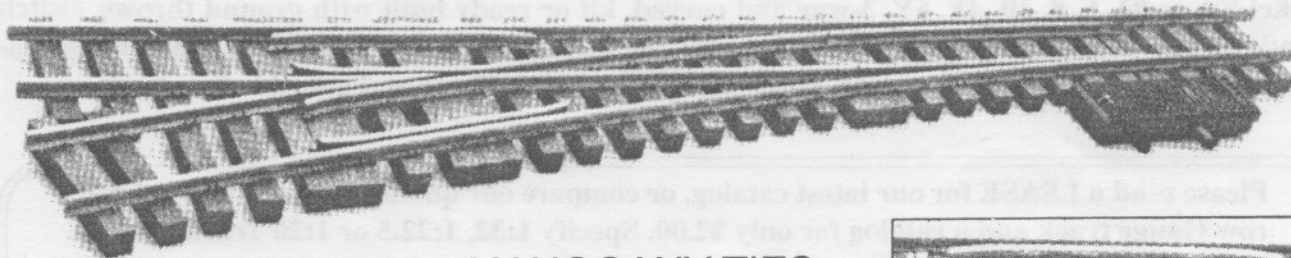
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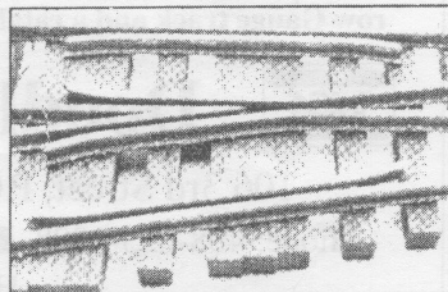
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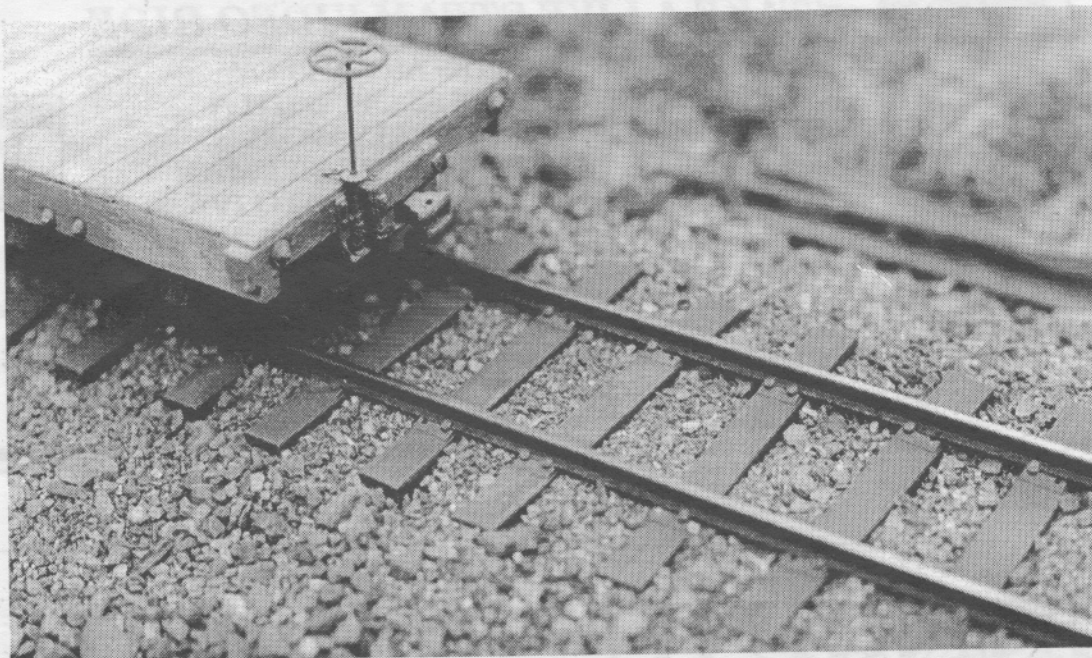
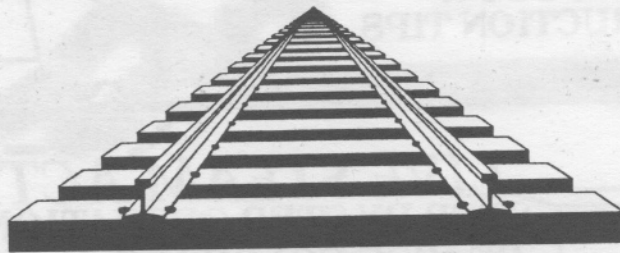
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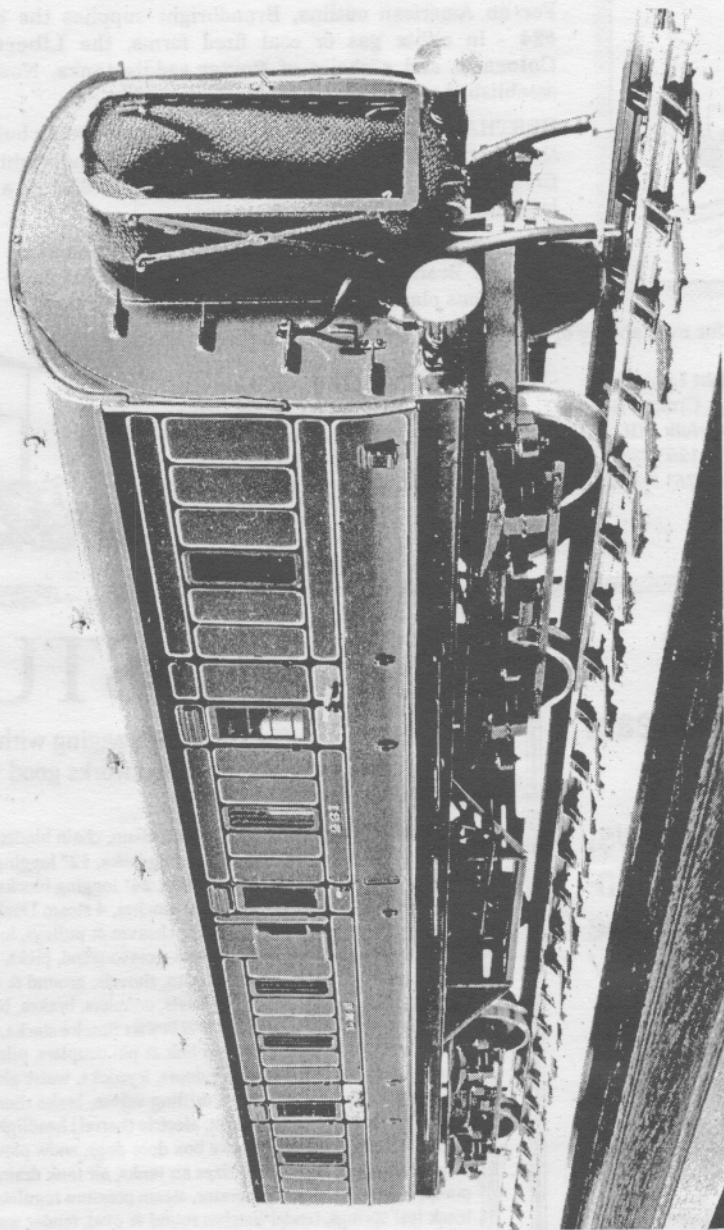
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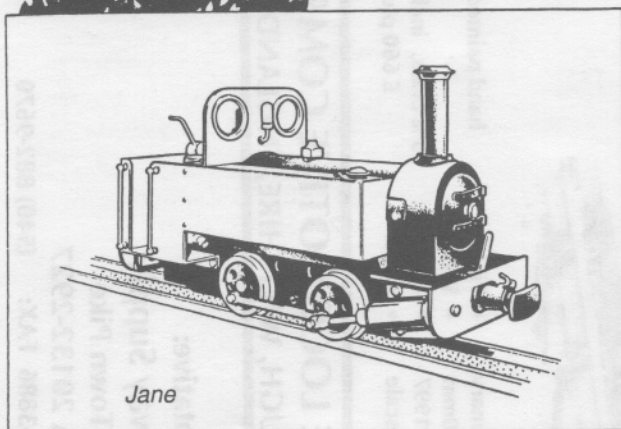
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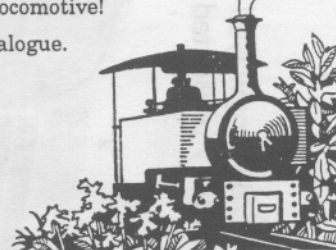
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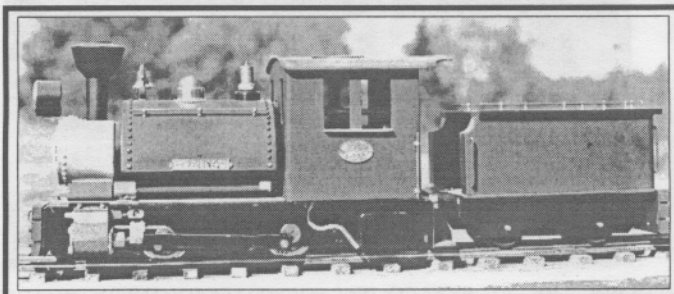
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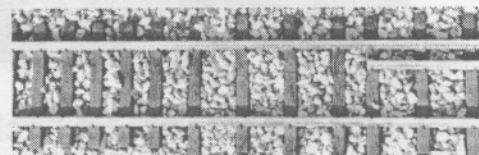
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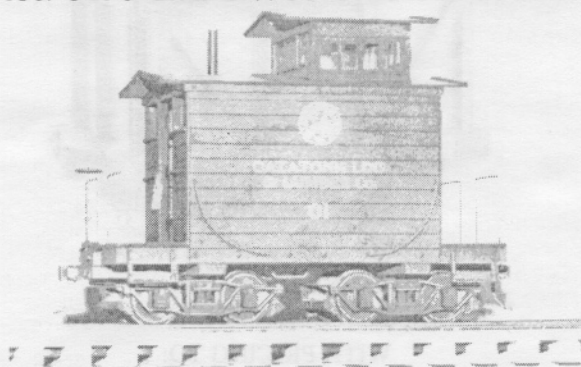
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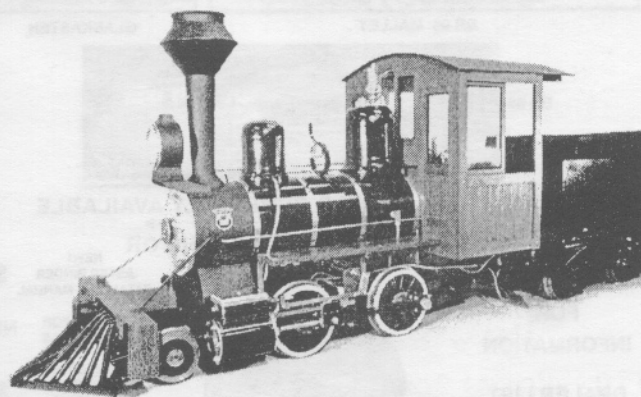
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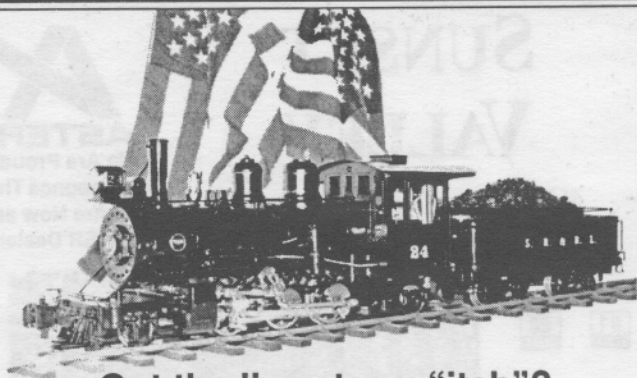
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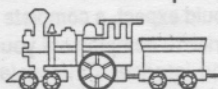
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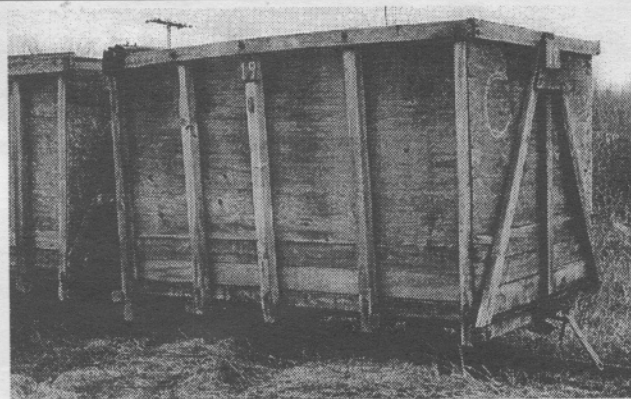
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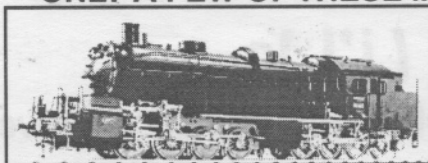
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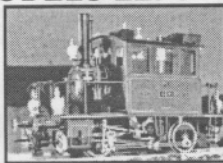
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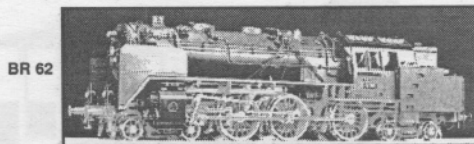
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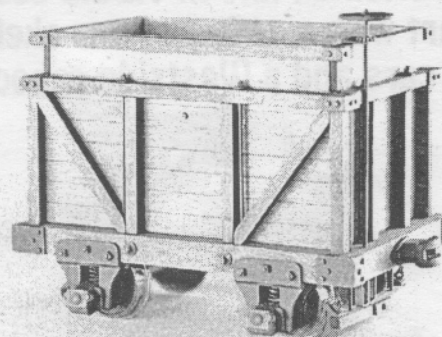
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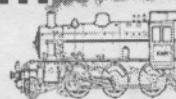
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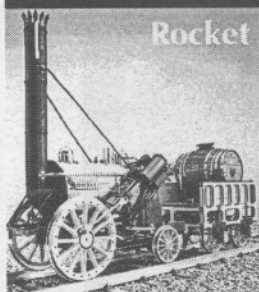
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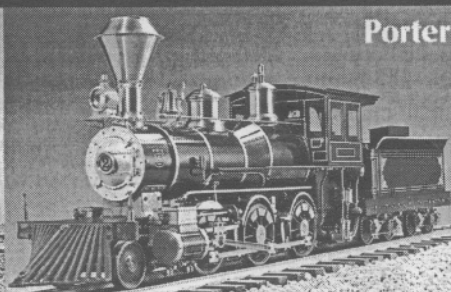
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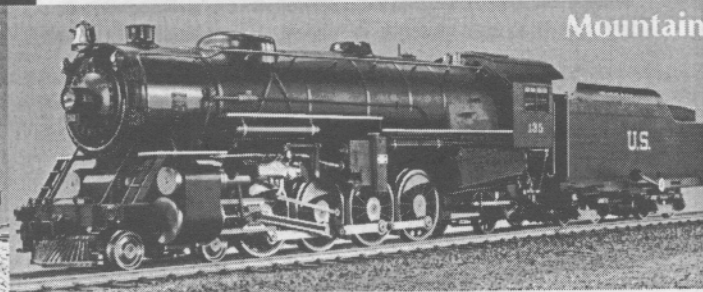
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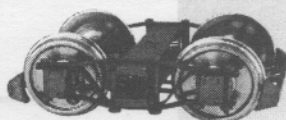
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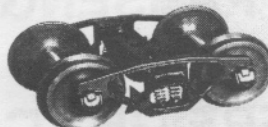


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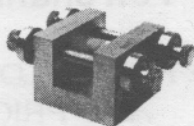
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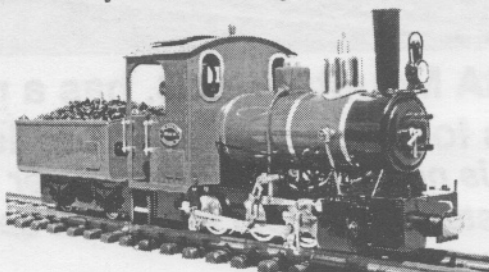
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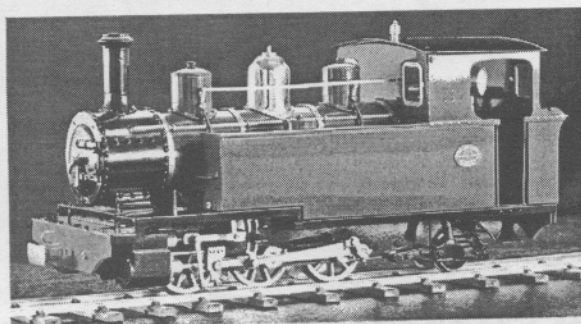
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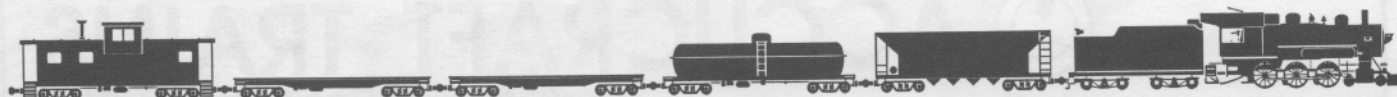
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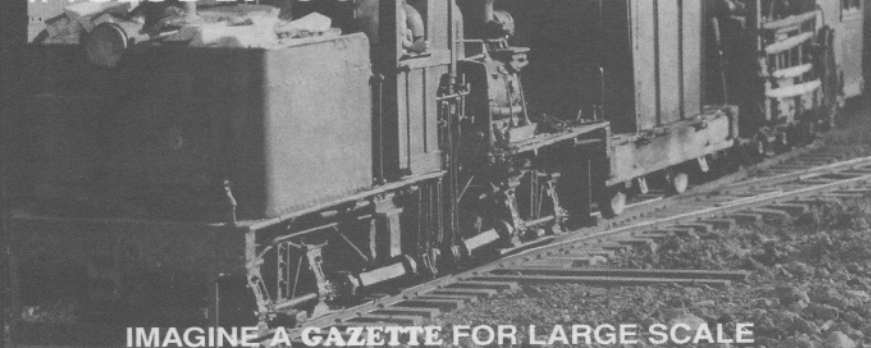
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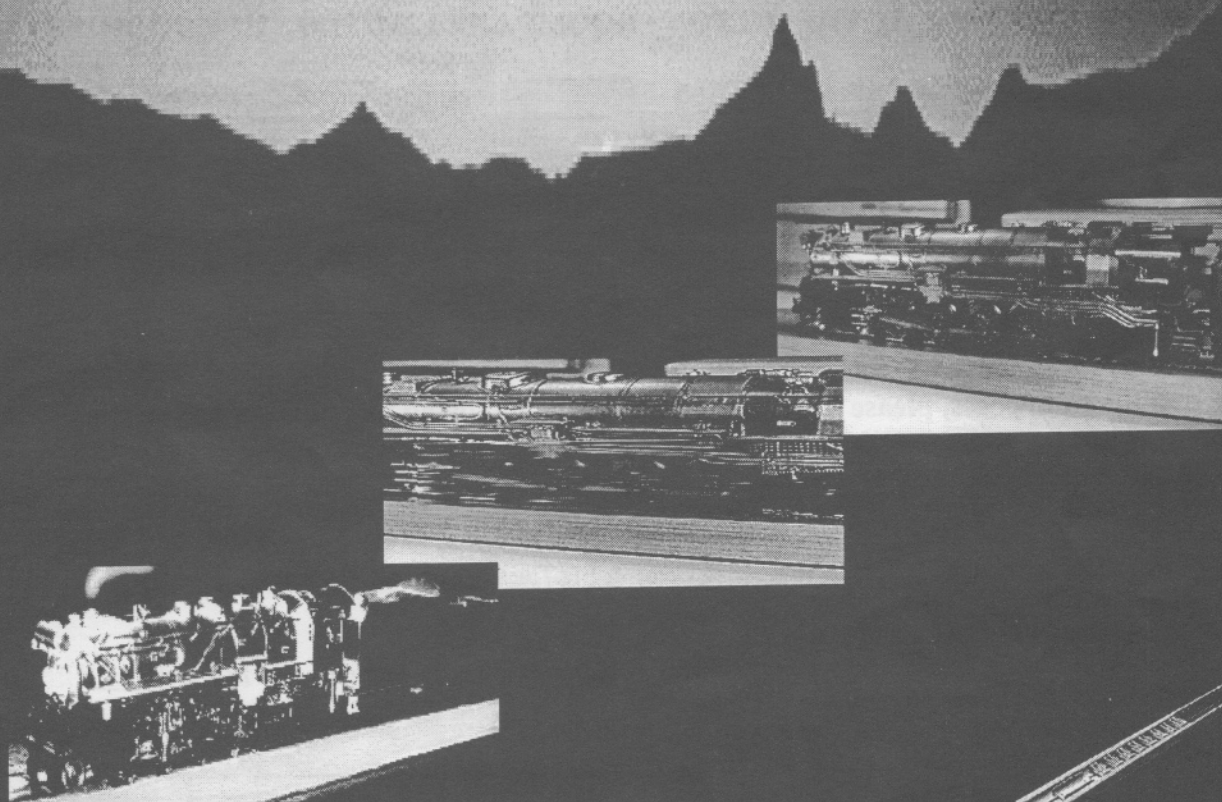
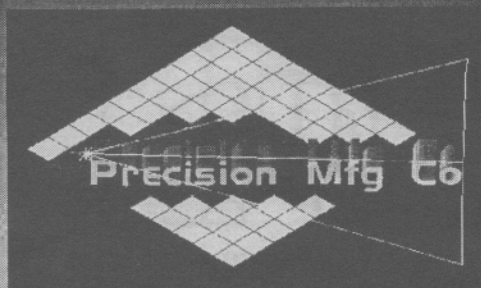
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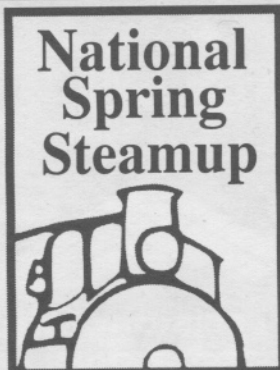
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(\*\*Based on availability. Refunds will be given if unavailable.)

**For planning purposes, please provide as much of the following information as you can:**

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(Coco's is a family style restaurant, prices range from approximately. \$6-\$18. Walking distance from the Sunnyvale Hilton.)

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• How many people will attend the local steamups after the event?

Monday (Gary Broeder's, 30 minute drive) \_\_\_\_\_ Tuesday (Kevin O'Connor's, Sacramento, 2 hr drive) \_\_\_\_\_

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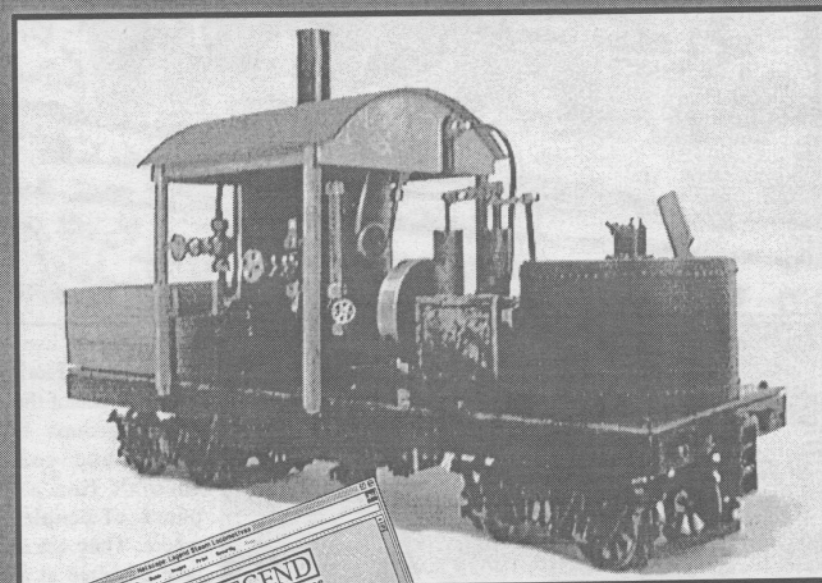
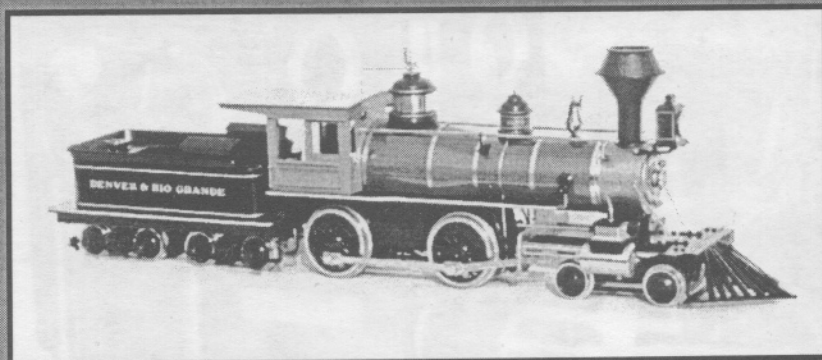
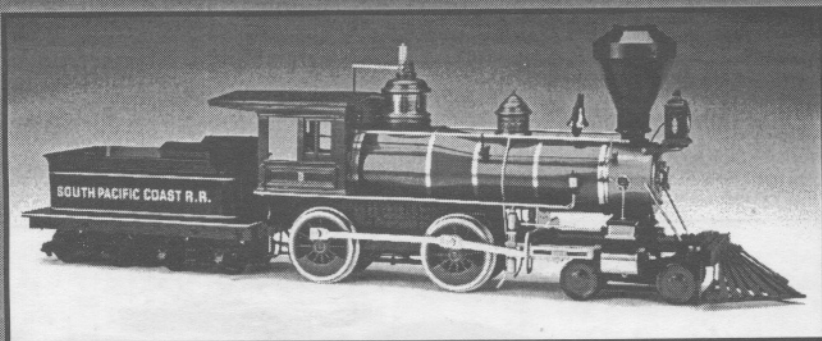


Photo of pilot model.



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#### Baldwin American 4-4-0

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- Butane fired.
- Slide valves, with fully reversing valve gear.
- Continuous running capability, with gauges.
- Brass and stainless steel construction.
- 1:24 scale Gauge One. 10' min. radius.
- \$2995. Specifications and price subject to change without notice.
- One more trip to China and they'll be ready...

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#### "Sierra Flume Company No. 1"

- Climax Patent 12 Ton Locomotive.
- Coal fired, includes gauges and water glass.
- Bolt-on butane firing system also available.
- Auxiliary water tank with hand pump.
- Prototypical vertical double acting slide valve cylinders. (Pilot model photo shows beam engine, not available. Call for details and more information.)
- 4:1 gear ratio.
- 1:20.3 scale.
- Affordable coal firing, a new experience.
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- Specifications and price subject to change without notice.

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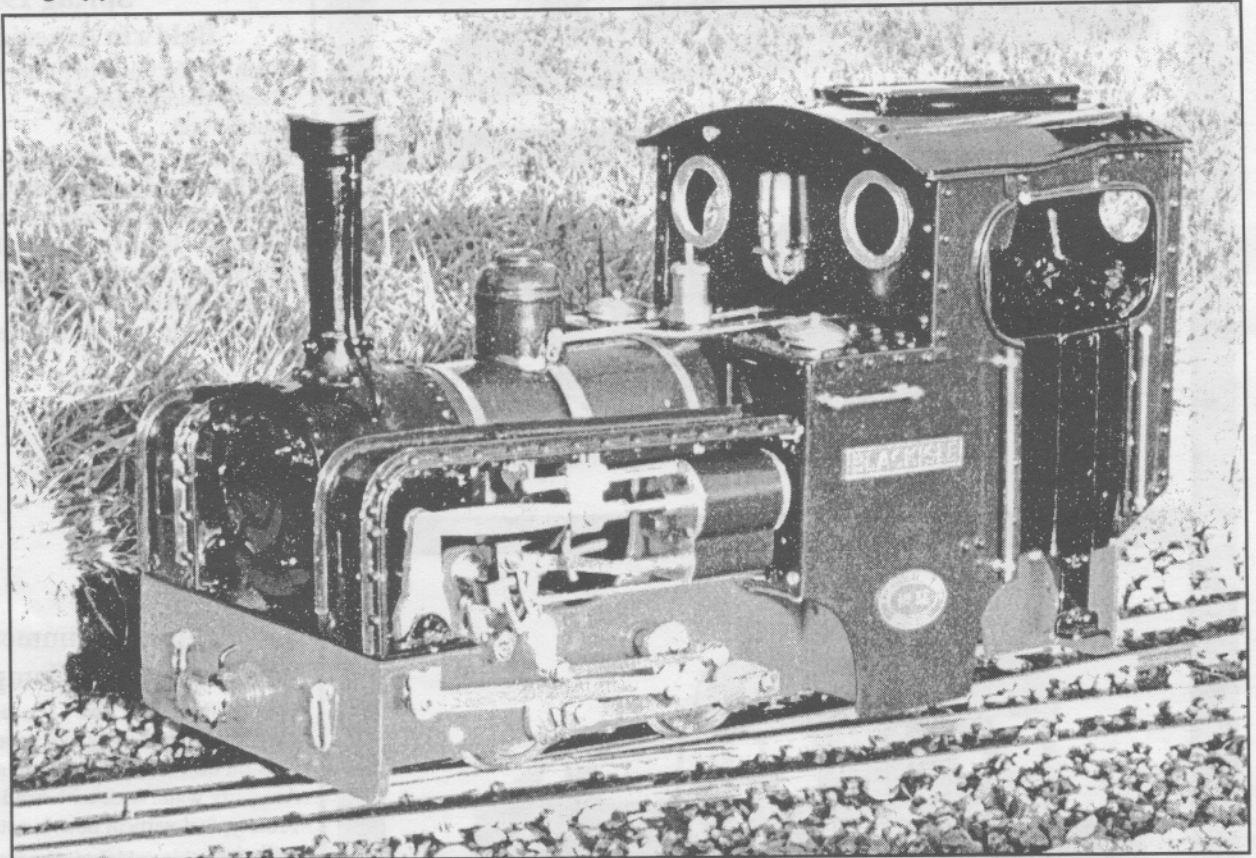


# Steam Scene.....

We invite you to send your favorite photos for this feature. PLEASE label each photo with vital information like photographer, subject, where, when and why. Stick-on mailing labels work great for this. Don't try to write directly on the back of the photo...it embosses the front and ruins it. Mail them to SitG, PO Box 335, Newark Valley NY 13811. Please include a SASE with sufficient postage if you'd like your photos returned.

*Blackisle*, a fascinating and very unique locomotive shown posed on the Mountain Division of owner Brian Watt's Kessock Light Railway in Scotland. *Blackisle* received a Highly Commended award in the Jack Wheldon Cup competition at Stoneleigh, England in 1993.

photo - Brian Watt



The miniature live steam community in Florida has got to be one of the most active groups in the hobby, and you just couldn't find a nicer bunch of people anywhere. They are shown here gathered at a steamup hosted by Rio Pecos in November, 1997.

Bottom row - Clyde Metzler, Bob Nowell, Bill Chamberlain, Rob Osterhoudt, Walt Swartz, Fran Osterhoudt.

Second row - Bill Casteel, Larry Smith, Bob Osterhoudt.

Third row - Dave Conroy, Hank Povee, Bob Huber, Norm Salley.

Top row - Hans Fallisch (Chef), Betsey and Ken Parkinson.

photo - Rio Pecos Steam Team

# SWAP SHOP

**Wanted:** Code 250 steel rail. Tom Moriarty, 760-480-2337. (42)

**Trade:** My factory built Aster Western Maryland #6 live steam Shay (never fired) for your factory built Aster Greenbriar Shay...steam or electric. Charles Crehore, 6308 E. Joshua Tree Lane, Paradise Valley AZ 85253. Phone 602-948-7166 or e-mail <creshay@aol.com>. (42)

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**For Sale:** LGB Frank S. steam locomotive. Includes radio control Best offer over \$1,100.00. Michael Burchardt, 530-343-4131. (43)

**For Sale:** Roundhouse Fowler - new, test fired only, maroon, butane fired, set up for radio control. Excellent runner. Asking \$1,600. Don Plasterer, evenings @ 248-737-7052. (43)

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**For Sale:** Roundhouse 0-4-0 with scratchbuilt American-style body. Gas fired, Walschaerts valve gear, R/C, tender & carrying case. \$700.00. Also have rolling stock and parts - send SASE for list. Stumpy Stone, 71019 Mt. Pleasant Pike, Martins Ferry OH 43935 • (740) 633-6354. (43)

*Swap Shop listings are offered at no charge as space permits. No dealers and no phone-in ads, please! Send your listings to SitG, P0 Box 335, Newark Valley NY 13811, or fax to 607-642-8978 (24 hours), or e-mail to <docsteam@spectra.net>. Ads must contain sellers name, plus address and/or phone number. Ads will be run one time only unless previous arrangements are made.*

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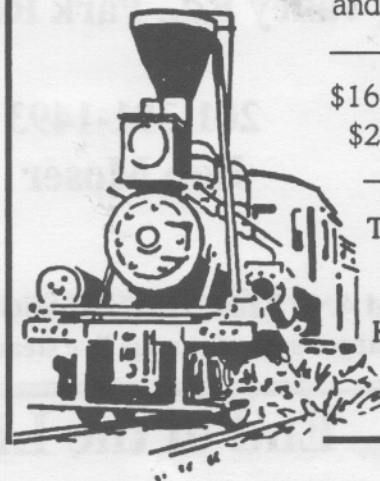


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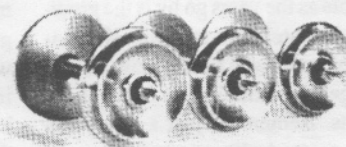
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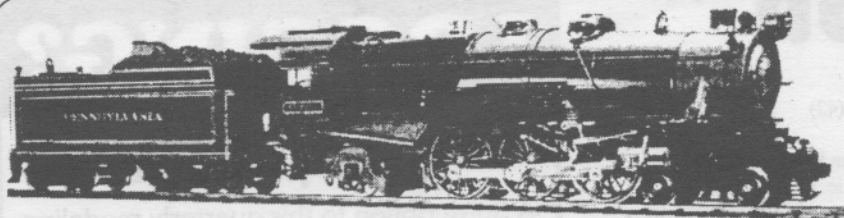
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## End of the Line

Everyone who attended Diamondhead '98 raise your hand.....hmmmm, just as I thought. Every one of you is still grinning from ear to ear! This premiere event for steamers the world over just keeps getting better and better. Next issue we'll devote plenty of space to photos of DH '98 (send in your best!), but for now I'm going to just touch on a few impressions and interesting trivia.

One thread that seemed to run through nearly every conversation I had at DH this year touched on the fact that it has become as much a social event as anything else, which is quite a departure from earlier years, when the focus was on getting as much track time as possible. Now that many of us have been getting together every year for 6 years, the whole group is beginning to feel like a great big extended family, and the love and genuine affection between attendees was very apparent this year.

Another thing that has become more and more noticeable as the years go by is the growing number of scratchbuilt and kitbashed locos. I'm really impressed by the skill, imagination and ingenuity exhibited by many of our kindred spirits. Remember just a few years ago, when it seemed almost sacrilegious to make any changes to a factory stock steamer? Now it's more like, "Okay, I've got the Aster Big Boy ready.....hand me that cutting torch!"

As I've mentioned here before, the locomotives and rolling stock just keep getting better and better. Every year I swear that I've seen the absolute ultimate, but every year I find more things to marvel over. How many of you saw the amazing train that Larry

Bangham brought? Features that we could only dream of a few years ago, and enough gadgetry to bring tears to the eyes of anyone addicted to machinery and hi-tech goodies...and that would be all of us, wouldn't it?

Larry's train is a collaborative effort between Allan Starry, Kevin O'Connor and Larry himself, and it features things like a low-water probe in the boiler, which sends a signal to an electric water pump when the water is low, and the pump dutifully adds water to the boiler. This gadget is located in an innocuous looking MOW car.

If you've got all that water available, you might as well settle in for a lengthy run. Larry has seen to that by fitting a cannister of fuel inside the faux tank on a water car, giving him the capacity to run for hours without refueling if desired.

The crowning touch on the loco that hauls this amazing train is one of Larry's Harmonic Steam Whistles, which not only sounds great, but is mounted on top of the t-boiler, with a very scale-looking brass whistle poking through the cab roof. And when Larry blows the whistle, a jet of steam shoots into the air from the right place, just like God intended!

Is this a great time to be in this hobby, or what?

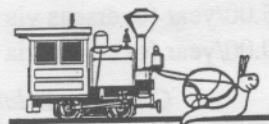
Happy Steaming!



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