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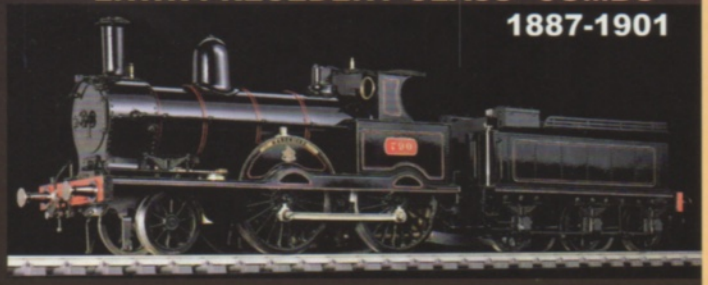

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STEAM IN THE GARDEN

with Steam on the Pond

Vol. 10, Nº 1
Issue Nº 49
January/February 1999

Articles

Departments

ON THE COVER:

Front:

The new Aster Mogul put on a mighty impressive performance as it ran hour after hour on the tracks at Diamondhead '99 under the watchful eyes of Geoff Calver and Jerry Hyde. Another nice effort by Aster.

digital photo by Ron Brown

Check the back cover for more color photos!

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

1999 CALENDAR OF EVENTS

May 28-30, 1999 – Pennsylvania Live Steamers Memorial Day Weekend Steamup. Rte. 29, 1 mile north of Rte. 113, Rahns, PA. Permanent Gauge 1 track and Gauge 0/Gauge 1 portable tracks in operation. Night running with lights. Food available on site with lodging nearby. For information and directions contact Harry Quirk, PO Box 215, Springtown PA 18081 - phone 610-346-8073 - e-mail mikemoore@home.com.

June 6, 1999 – South Orange Seaport 10th Annual "STEAMBOATS ONLY", a radio controlled model steam boat meet. Meadowland Park Pond, off South Orange Avenue, South Orange, New Jersey. For further informatio contact: Charles Roth: (908) 638-8341 or Ron Hermann: (201) 891-3020. Sponsored by the South Orange Department of Recreation and Cultural Affairs.

July 25, 1999 - Valley Forge Model Ship Society Fourth Annual Steamboats-Only R/C Meet. Contact Ernie Morris for details at (610) 948-8107.

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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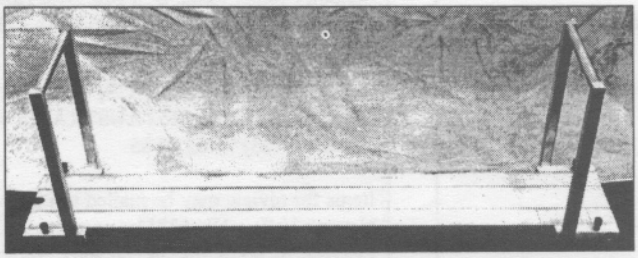

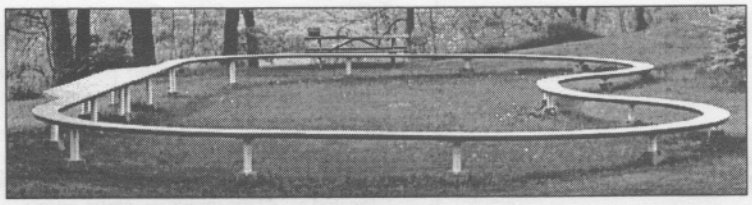

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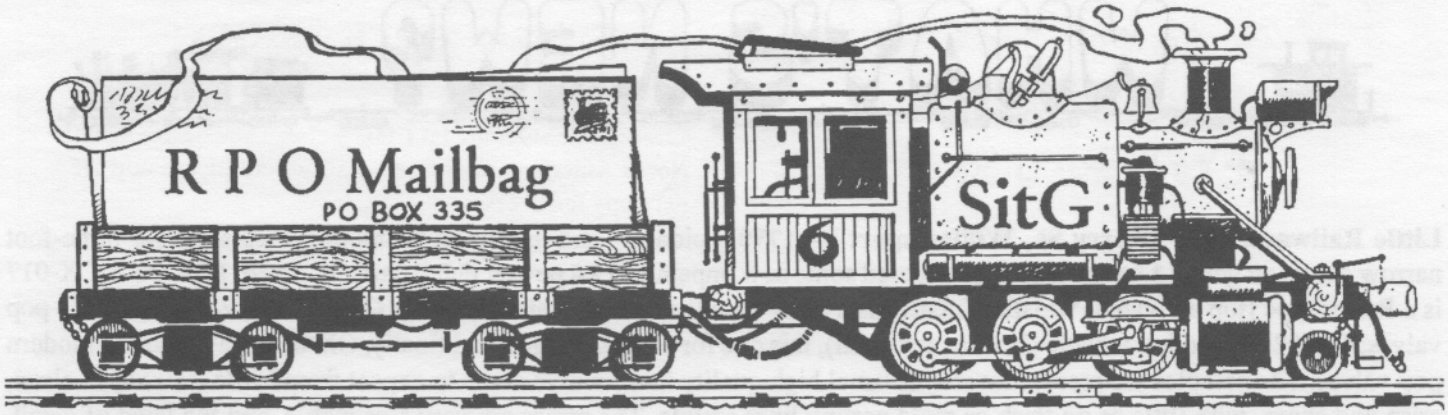


Letters from readers are welcomed and encouraged. Offer advice, encouragement, suggestions or constructive criticism. Tell us about your current project (and don't forget the photos!) or just share live steam experiences. But please keep your letters to a reasonable length so everyone has a chance to 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.

* * * * * *

Martins Ferry, Ohio
via e-mail

Ron,

In reading the "Continuing Quest for Longevity" in the Nov/Dec '98 issue, I was reminded that this experiment has already been successfully done in 1:1 scale. Back in the late '40s the Norfolk & Western railroad, a major coal hauler, decided to try to beat the encroaching diesel switchers with their own 'high-tech' steam switcher.

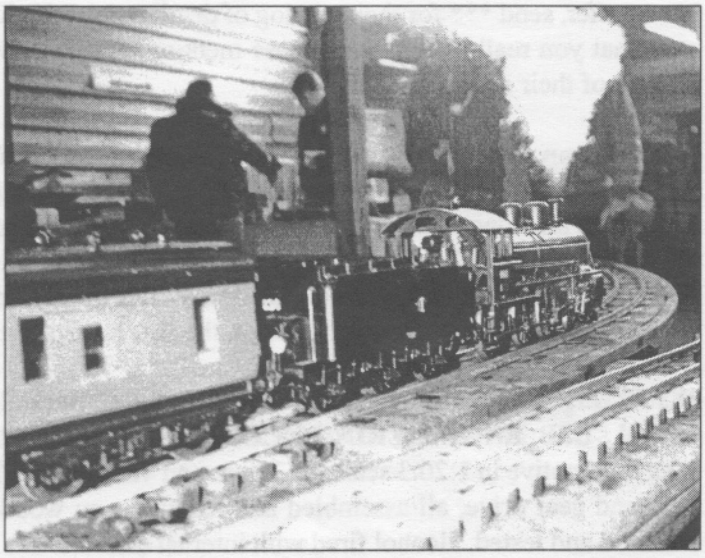
This was an 'automatic' locomotive. Two 4-8-0 engines were built with stokers, standby feedwater pumps, and an extended smokebox where a fan was installed for draft. Bigger tenders were used, and the locos had pressure lubrication sytems. All the equipment was rigged in various ways so that only an engineer was required, and of course the locos could work three shifts without service. I'm sure the unions were happy about this!

I'm not sure when they were scrapped, but Norfolk & Western lost the battle to retain steam. Even though they built their own locomotives, and fine ones at that, manufacturers of accessory parts had gone under by the late fifties and N & W was forced to dieselize.

The 'automatic switchers' would have been ten years old when scrapped; a very short life for a steam locomotive.

Stumpy Stone

* * * * * *



Springtown, Pennsylvania

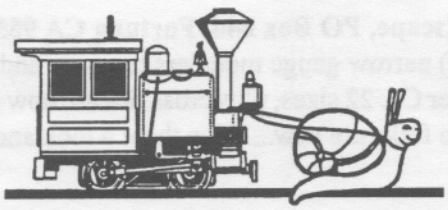
Dear Ron,

The 3rd Annual Cabin Fever Expo was held on Jan 30-31, 1999 in Leesport, Pennsylvania. As part of the exhibits, the Pennsylvania Live Steamers resurrected Harry & Paul Quirk's portable track (see photo taken by Paul Quirk above). Eight members ran a total of 14 steam locomotives over the 2-day period. The exhibit has proven to be very popular, and we are invited back for next year.

Sincerely,

Harry Quirk

* * * * * *

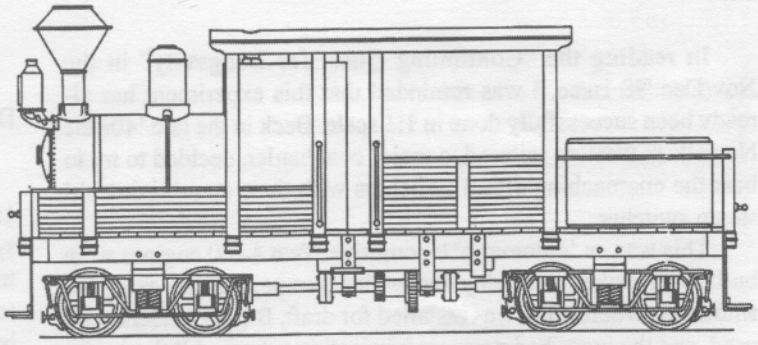


WHAT'S NEW?

Little Railways, 1621 Cherry St., Williamsport PA 17701, pioneers and leaders in promoting 1:20 scale for three-foot narrow gauge on gauge 1 track, have just released some new unpainted cast pewter detail parts in.....yep, 1:20 scale. CX-017 is a Porter-type (top activated) whistle; CX-018 is a Shay-type (bottom activated) whistle; CX-019 is a 2-pack of early pop valves; CX-020 is another whistle (bottom activated), this one for a 2-6-0 Mogul; and finally, CX-021 is a 2-pack of modern pop valves. The samples we received were the usual high quality items we've come to expect from Little Railways...clean, crisp and sharp, with little or no flash or mold parting lines visible. The prices are very reasonable, and the level of detail, particularly on the whistles, is excellent. If you are into 3-foot narrow gauge and have not checked out what Little Railways has to offer, send *** for their catalog of detail parts, RTR logging rolling stock, really nifty cast figures, and a host of other stuff that you really need. And please mention that you saw it in SitG so that LR will know where to allocate the greater portion of their advertising budget.

Bob & Fran Osterhoudt at Rio Pecos Garden Railroad Co., 27136 Edenbridge Court, Bonita Springs FL 34135 - phone (941) 495-0491 - e-mail <riopecossteamteam-com@msn.com>, exclusive U.S.A. agents for Pearse Locomotives, Ltd., have announced that Pearse Locomotives will produce a 2-8-0 Consolidation for showing at DH 2000 and delivery shortly thereafter, if enough people are interested. The price will be $3700 - $3800, which will include R/C, Water Fill System, insulated wheels and the excellent Pearse quality and running characteristics. If you are interested, contact Bob or Fran at Rio Pecos and get your name on the list. No deposit and no obligation.

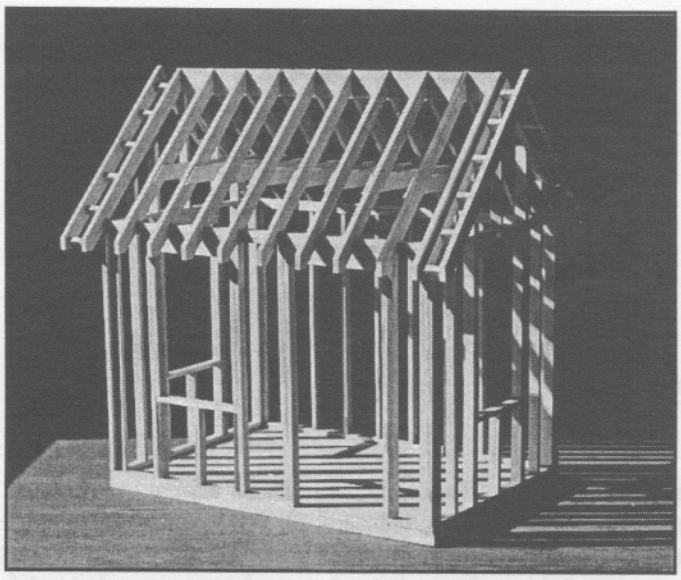
D.J.B. Engineering, 17 Meadow Way, Bracknell, Berks RG42 1UE, United Kingdom, phone/fax 011 44 1344 423256, e-mail <DJB_ENGINEERING@COMPUSERVE.COM> has announced a new loco kit...a 15 ton Class A Climax logging locomotive in 1:20.3 scale for 32mm and 45mm track. The kit will include lost wax cast 4' wheelbase trucks with brake gear and gear drive, all assembled and ready to run; wooden frames & body with all wood cut to size; copper boiler assembled and tested, alcohol fired with internal ceramic filled burner OR butane fired with ceramic block burner; boiler fitted with water gauge - regulator - blower valve - pressure gauge - feedwater clacks (one for hand pump and one for engine driven pump).....and much more. The choice of engine is left to the builder, but a two-speed gearbox and drive shafts are supplied. Price is not yet announced....delivery is expected mid 1999. Sulphur Springs Steam Models has been appointed as D.J.B. Engineering's agent in the USA, so contact the appropriate firm for more information or to place your order. Please tell them you saw it in SitG.



Doubleheader Productions, 3725 Pageant Place, Dallas, Texas 75244 - phone 972.247.1208 - e-mail dblhdr@iadfw.net, announces that they now represent The Wagon & Carriage Works, featuring hundreds of detail parts for G.1, kits and ready-to-run two-rail electric.

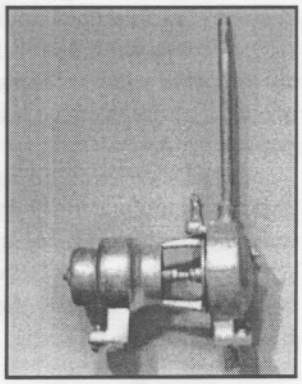
New Modeling Service - RailCrafter - Rolling stock assembly, detailing, painting and lettering, any scale, plus brass steam loco painting and repair. Web page at http://www.geocities.com/Yosemite/Cabin/2792

Narrow Escape, PO Box 644, Fortuna CA 95540 - phone/fax 707-725-4536 - www.narrowescape.com/3ft/ - A 1:20.3 scale (Fn3) narrow gauge modelers resource and guide will be the first to offer "F" scale lumber produced by Kappler Mill and Lumber Co. 22 sizes, plus cross ties are now available with more sizes on the way. Check the web site for more information. These folks are new.....give them a look and be sure to tell them where you saw them mentioned.



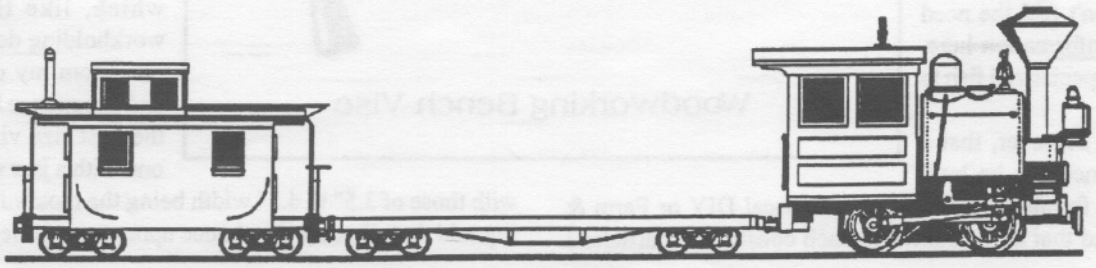
John Francis of JF Designs, 13 Elm Street, Brookline MA 02445 - phone 617-731-2754 has good news for the 7/8n2 crowd. He is offering a frame structure loosely based on the Sheepscot station, covering a scale 12' x 8' footprint. This structure could be displayed on a ground level or elevated railroad as a station under construction, or it could be finished to your own requirements. We think it would make a nice *Steam in the Garden* office building! The floor and walls are framed with scale 2 x 4's, and the roof rafters are 2 x 6's. All parts are joined with exterior grade carpenters glue. It doesn't take much more than a few small structures like this to bring a plain vanilla railroad to life...take a closer look at the photo and give JF Designs a call.

And while we're on the subject of structures and such....Precision Products, 763 Cayuga Street, Unit #2, Lewiston NY 14092-1724 - phone/fax (716) 754-2997 announces their new web site at....www.appliedimaginationinc.com They also announced a new Plastic Veneer sheet, Signs #2, which contains 35 3D signs with raised frames and lettering.. Drop them a line or give them a call and ask about their interesting and useful product line.



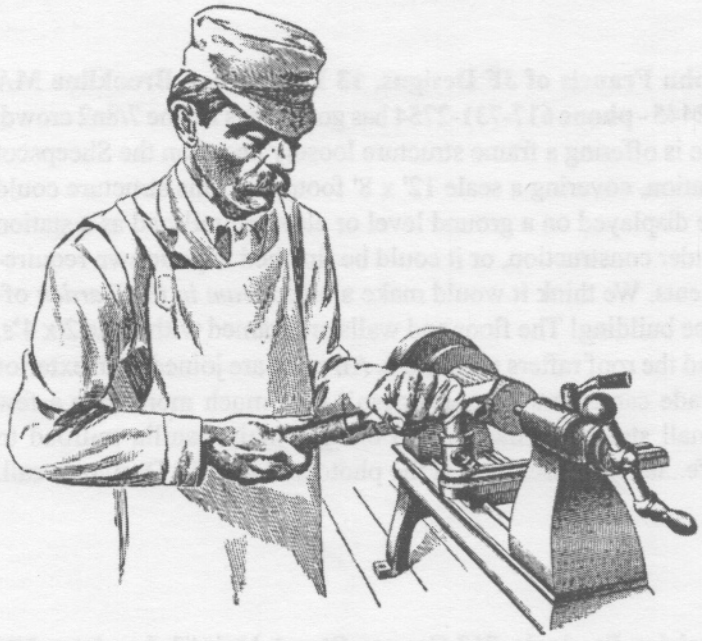
That Master of Brass, Pete Thorp of Trackside Details, 1331 Avalon Street, San Luis Obispo CA 93405, has produced a new batch of cast detail parts for the hobby. The Sunbeam Generator (TD-170) shown here exhibits the usual high level of quality we always get from TD. Mold parting lines and flash are non-existent, and the detail is excellent. Drop Pete a note with $2 and a SSAE and ask for his latest catalong.

Good news for those looking for custom painting, weathering, detailinig, building, etc. We just received the following note from Rob Osterhoudt (Rio Pecos), who has moved into his new shop. For those of you who missed out on Rob's original wood cabs for the Maxwell Hemmens Porter, they are available on a limited production run. Rob is custom painting locomotives to your specifications and colors (and I wish we could show you a color photo of the beautiful "Bumblebee" paint job he did on a Pearse Nevada - stunning!). Air brush weathering will also be a service provided. Contact Rob at e-mail **<Build4U@msn.com>.**



The Fitter's Bench

by Crankpin



Back to tool basics.....

Those of you who have been with us since the beginning of this series of articles may remember that I began this adventure with an article on how I had found a good buy in a small drill press. Since then I have written of machine tools and their accessories and have had practically nothing to say about hand tools. However, as important as machine tools are, the fact is that the typical live steam project will require as much time working with hand tools as with machines, hence they should be given as much attention as the machine tools. Beginning with this issue we will put that right.

Initially you will see that some of what we need in the way of basic hand tools is fairly common and can be found in the common household tool kit or at any decent hardware store. But that is where the similarities between household tools and the special needs of model building, and model building in metal in particular, come to an end.

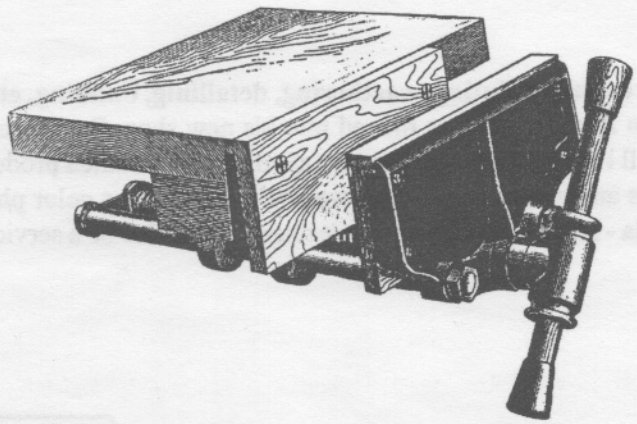
Ordinarily one might expect that I should first describe the building of a proper work bench, since a sturdy and stable working surface make metalworking life a good deal easier. However, since there have been any number of excellent book and magazine articles which have offered detailed descriptions of bench construction of, both in wood and metal, I don't feel the need to repeat that information here. We have more specialized fish to fry.

I will say, however, that a superb workbench can be built using common framing lumber from your local DIY or Farm & Home store, and that all of the workbench construction articles I have ever seen specified screws or bolts for assembly. I strongly recommend that you follow that advice. While it is true that many projects have literally been built on the kitchen table, which can be perfectly suitable as far as size and strength is concerned, it is difficult to create any sense of continuity in a project when it must be regularly interrupted by bothersome inconveniences such as meals. Therefore a proper, dedicated work bench is to be preferred.

So I'll begin with what is found upon the bench, and the first of these out of the gate is the Bench Vise. There are a number of different types of bench vises, such as the Carpenter's or Cabinetmaker's vise **(Fig. 1)**, the Pipefitter's vise **(Fig. 2)**, the Sheet Metal vise **(Fig. 3)**, and the Machinist's vise **(Fig. 4)**. With the exception of the Carpenter's vise, which is primarily designed for wood, the others are actually quite similar and, aside from size, only differences in jaw shape distinguishes one from another. The one that best suits our needs is naturally enough the Machinist's vise.

The size of a bench vise is determined by the width of its jaws, and their sizes range from as small as 1-1/2" up to 8". Vises are very much like lathe chucks in that bigger is not necessarily better, and a vise needs to be sized to complement the general size of your work. For those of you who joined us after that issue, in writing about lathe accessories I cautioned that one should resist the temptation to select the largest chucks your lathe will carry because if the chuck is too large the jaws can easily crush the smaller workpieces before you realize what has happened, and too small and the larger work can't be properly gripped. The very same is true of bench vises which, like the chuck, is a workholding device.

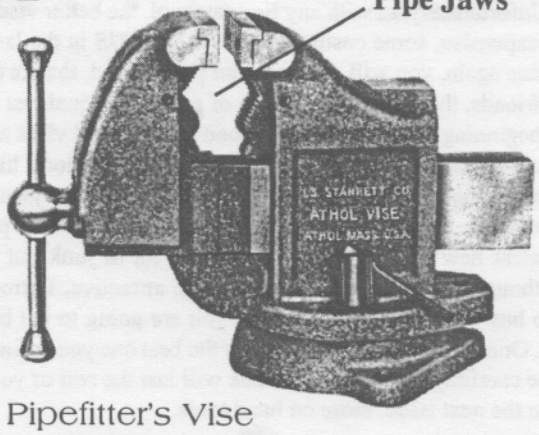
Fig. 1



Woodworking Bench Vise

From my own observation and experience I can suggest that the best size vise for our use is one with a jaw width of 3" to 5", with those of 3.5" to 4.5" width being the most suitable. Now having said that, if you were chance upon a nice little boot sale vise of

Fig. 2



Pipefitter's Vise

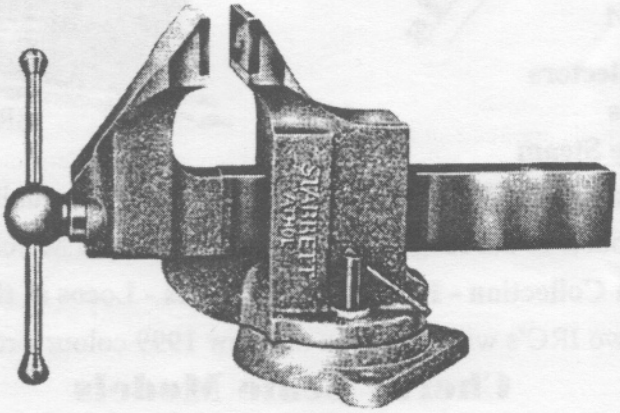
2" to 3" jaw width, such as shown in Fig. 6, my suspicion is that you would find it to be an extremely handy and useful second vise. That is, of course, unless you insisted upon clamping it permanently to the kitchen table, in which case I would not turn my back on 'Er Indoors.

One attribute of a top quality vise is that as many as four surfaces of the shank or sliding part of the movable jaw **(see A, Figure 4)** are machined to a very close sliding fit in the vise body. This serves first to keep the jaws aligned parallel in both the vertical and horizontal to within a few thousandths of an inch, and it allows a great deal more clamping pressure to be exerted by the vise because the machined surfaces have less friction. Many budget priced utility vises will be left as-cast and will not be able to exert as much clamping force at the jaws; however, such a vise might still be perfectly good for our purposes because we aren't in this to see what we can crush.

A very useful feature you will find on may vises these days is an anvil-like flat on the top side of the body. A very handy place for giving things a whack, especially if you don't have an anvil laying about.

Another very desirable feature for a bench vise is a swivel base **(see B, Fig. 4)**, which allows the vise and work to be rotated 360° in either direction and clamped in position. Many of the models currently on the market have swivel bases, and on better vises it is an available option. However, there is a negative aspect of this type of base. As you can imagine, it is important that once in position your vise stay put and hold firm no matter how much torque or force is exerted at the jaws (within reason of course - a vise can be broken). Some vises with swivel bases are not well designed, or are sloppily made, and I have found that many are not only difficult to rotate, but do not lock positively and, even when locked down tight can be rotated. If you choose a vise with a swivel base, look for one without excessive slop between the base and the vise body, yet which rotates easily, and which has locks or a clamp screw such that once you clamp it in position it's as immovable as if the vise body was bolted directly to the bench.

Fig. 3



Sheet Metal Vise

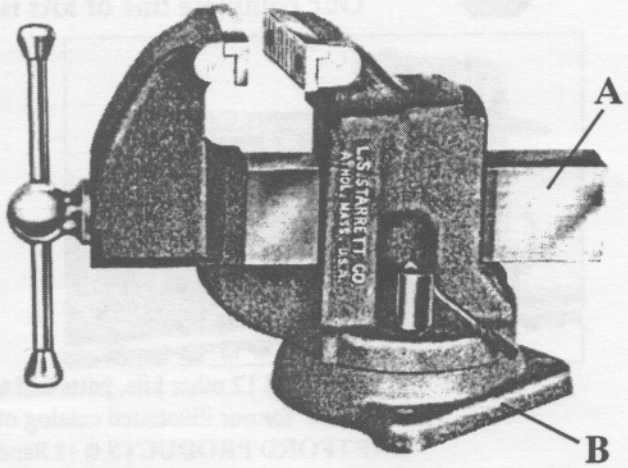
Odds and ends

The recommended method of mounting a vise is to bolt it to a sturdy bench top at a height such that the top of the jaws are at approximately the same level as the point of your elbow, when standing straight up with your forearm parallel to the floor. Also, if you haven't done so already, you will discover that unless your workbench has been firmly fixed in place so as not to 'rack' or wobble, any strokes that you apply to an object in the vise will be transferred to the bench. The resulting movement will prevent you from doing any work worth talking about until the wobble is fixed.

If possible, choose a vise that has replaceable jaws. The standard material for vise bodies is cast iron or cast steel with separate jaw facings which are held in place by machine screws in each jaw. In industrial usage, jaw facings are considered consumables and in the eventuality that they become badly worn or damaged they can be replaced.

The jaws of the vast majority of vises sold today are steel and are often hardened for wear resistance and deeply serrated for gripping power. This is good for big, ugly work where the finish is of little concern, but it will mar or destroy the surface of the small, often finely finished parts we work with. The vise makers

Fig. 4 Machinist's Vise

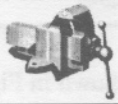


can't be faulted for this because they have to offer a product which will appeal to the widest range of users, most of whom aren't particularly concerned about putting teeth marks in the frame plates of their model Abegwythneddd & Fyddrrhyyd Y Dupprdyth Quarry Tank.

The remedy for this small problem, and something I strongly recommend you do, is to alter or replace the jaws of your vise so that you retain full jaw area but offer up a smooth, less destructive gripping surface to your work. Essentially, it's a case of being better off buggering up the jaws than buggering up your work, and can be done in several ways. The last option would be to file or grind away the serrations on the jaws, as this can be difficult to do, especially if the jaws are hardened, and also difficult for the average amateur to keep the jaw faces parallel. The popular option is to make or buy "non-mar" jaw covers. These are usually made of sheet brass and are held in place by wings or tabs which are folded around the jaw. You can easily make these yourself from sheet brass, copper, or aluminum. A third alternative, and my own preference, is to make a new set of jaws from rectangular brass or aluminum bar, using the original jaws as a pattern. This is an easy and inexpensive thing to do and allows you to retain the original jaws for use when you have a rough job to do.

Unfortunately, as with any first rate tool, the better vises are now quite expensive, some costing well over $200/US in the larger sizes. But once again, you will get what you pay for and, thanks to our oriental friends, there is a broad range of prices and qualities to choose from beginning at about $30/US. Good quality used vises are not too difficult to find and, although some old ones may look like junk, a little rust remover, cleaning, painting, and a new pair of jaws will give them new life and put you in business for a fraction of the price of an equivalent new one. There is, however, a lot of junk out there and even though mail order prices may seem attractive, I strongly urge you to buy where you can see what you are going to get before you buy it. Once again I advise you to buy the best one you can afford, and choose carefully because a good one will last the rest of your life.

In the next issue, more on hand tools.



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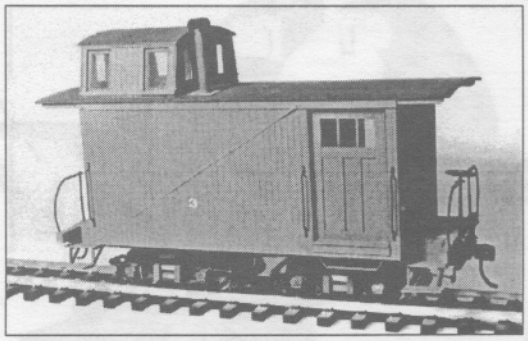

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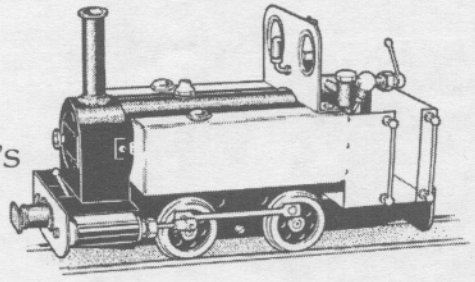
THIS MONTH'S FEATURED PRODUCTS

• IP Engineering *JANE*

Over the past few years, *JANE* has established herself as *the* entry level loco for newcomers to live steam, for live steamers on a tight budget, and for kitbashers. *JANE* features excellent quality and running characteristics at a very attractive price. (see the review of this fine little locomotive in issue № 32 of *Steam in the Garden*). *JANE* is **IN ST OCK** at Sulphur Springs Steam Models and ready for immediate delivery. Pick up the phone and place your order right now, and you can be running your new loco next weekend!

IP Engineering's JANE



• Argyle Loco Works *BANTAM*

Argyle Loco Works introduced their *BANTAM* at Diamondhead '99. *BANTAM* features fixed cylinders, unusual in an entry level loco. *BANTAM* provides the newcomer to miniature steam with an excellent quality locomotive to get started right, and it also provides the dedicated scratchbuilder and kitbasher with an excellent basis for their next project. As with the JANE, *BANTAM* is **IN ST OCK** at SSSM and ready for immediate delivery.

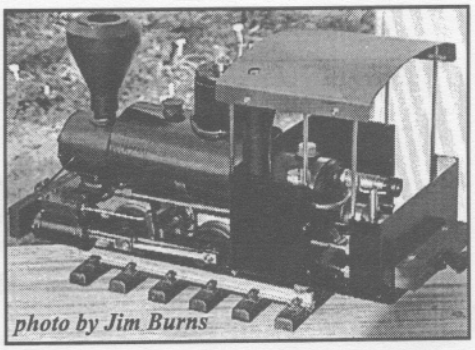
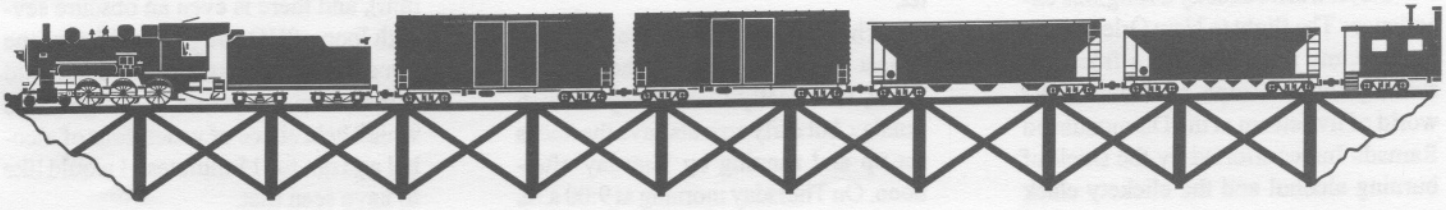


photo by Jim Burns

Argyle Locomotive Works' BANTAM

a lot of loco for a very little money



Diamondhead '99

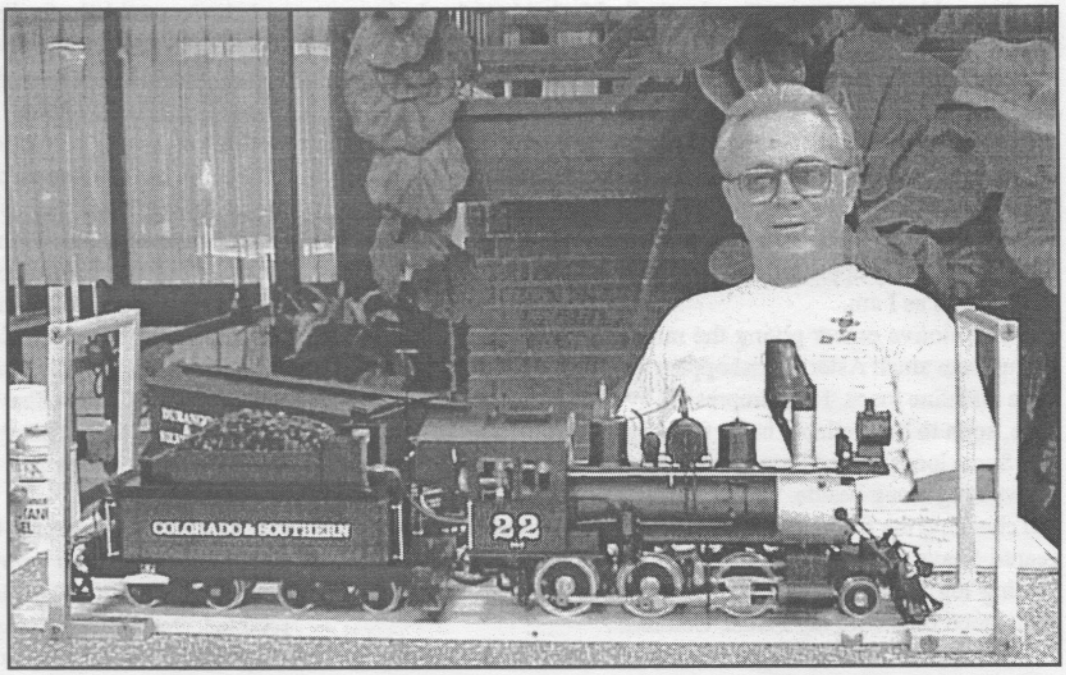
by Tom Bowdler
photos by Rob Osterhoudt, Marie Brown & Dlanor Nworb

The roar of the locos, the smell of the crowd....a newbie travels to mecca to boil water!

No, it wasn't exactly a religious experience. The flight to New Orleans was on time, my rental car had a front end shimmy above 70 mph, but I entered the world of live steam at the Diamondhead Ramada Inn comforted by the smell of burning alcohol and the clickety clack of wheels on track joints. It was quiet on Wednesday night and there were no familiar faces, so I headed for my motel.

The National Small Scale Steamup, or just "Diamondhead" to those in the know, technically runs Friday through Sunday, but early arrivals have the tracks set up and running by Tuesday afternoon. On Thursday morning at 9:00 a.m. there were locos fired up and running on all six loops, four of which are gauge 1, two are dual gauge (45mm and 32 mm), and there is even an obscure seventh loop of HO gauge track! I saw one run of an HO live steamer and was told someone built several N gauge locos which held six cc of water, four of alcohol and ran for 15 minutes! I would like to have seen that.

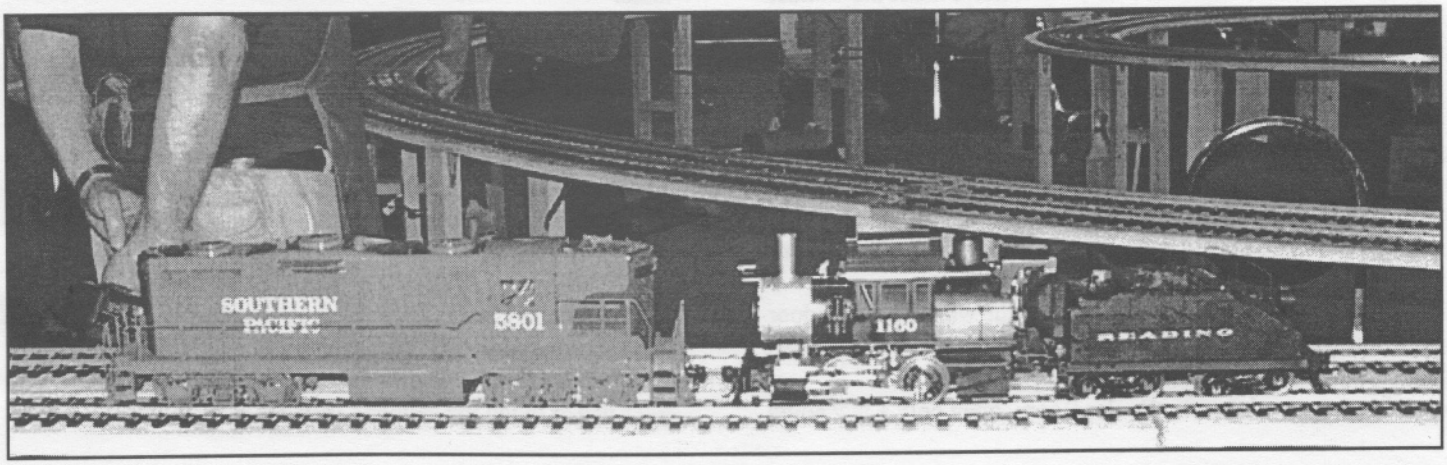
Opposite page: The action was hot and heavy on the big track, with every sort of consist following single locos, doubleheaders and even tripleheaders. Here Kattchan Tanabe (Japan & Mississippi) and Bill Payne (Kansas) tend to their trains.



Right: Bill Casteel (Florida) relaxes with a few of his iron steeds. Bill does a great job of detailing stock locos to suit the needs of his own railroad.

Left: Larry Smith (Florida) with one of his vintage steamers. Larry is a master craftsman, with models in the Smithsonian and in the hands of various heads of state.

Below: The Old Guard and the New....Wada Works diesel meets Wada Works Camelback switcher. Those newfangled diesel contraptions will never catch on...will they?



I was able to meet some "luminaries" of the hobby. I thanked *Garden Railways* author Vance Bass for his contribution to my enjoyment of the hobby. I had lunch one day with the Hergets of Ozark Miniatures and Hartfords of Hartford Products Inc., and with Jim and Kevin Strong.

Pete Thorp of Trackside Details, Walt Swartz of Istra Metalcraft, Ron Brown of *Steam In The Garden* magazine and Marc Horovitz of *Garden Railways* were in attendance. I found each to be readily approachable, friendly and just as nuts about steam trains as I am.

The motive power plying the rails and on display ran the gamut from small Aster Grasshoppers and Berkeley Crickets to large mainline locos. I was impressed by Aster's new 2-8-2 Mikado, soon to be available in kit form for $4000!

Some locos hauled long trains at high speed with their owners walking along beside, tweaking the throttle, pumping water and checking the fire with dental mirrors and flashlights. Small geared Shays, Heislers and Climaxes circled the track, slowly hauling log trains. I borrowed a mixed consist of ten cars for some good runs with my Pearse Colorado.

A number of antique steam locos were also in attendance and several homebuilts, including both serious and whimsical rolling sculptures disguised as Class A Climaxes, rode the rails preceded by the Energizer Bunny.

As the locos varied, so did the equipment and tools brought by their owners. Some showed up with their stuff in cardboard boxes (me), while others favored wooden boxes ranging from crude plywood to exquisite fitted wood cases with brass corners and fancy hasps. One box, built by Gary Lantz at Lantz Woodcrafts, had transparent sides for displaying the loco, and it held the loco firmly so the box could be turned upside down for servicing the bottom-side of the engine. A clever idea!

One toolbox I saw took the form of a railroad station, the roof opening for access to the contents. Another engineer had a cart that contained locos in boxes, tools and supplies in another, a folding table with a model trestle on which his steeds were serviced, and even a folding chair on which to perch.

A variety of fuels powered the steamers. Butane gas seemed to be favored by most, but a goodly number of spent cans of Methyl alcohol were in evidence. One loco was propane powered, another was fueled with Sterno and coal was the choice of several. This intrigued me as I watched the owner start the fire with more easily lighted charcoal, then add the coal and enjoy several lengthy runs. The unique sound his Roundhouse Sandy River made when the safety valve lifted made me wonder if it wasn't really fired by beans! The glow from the firebox after dusk had dimmed the light in the atrium was quite a sight.

There are other activities to keep attendees busy at Diamondhead. Several clinics were held, and I enjoyed one on soldering given by Graham Smith of Snake Ridge Lumber Company, whose hand built brass rail cars are a sight to behold!

There is a swap room where treasures change hands and a number of happy new owners headed straight to the track to try out their purchases.

There were also steam boats plying the waters of the indoor pool, and I understand that more and more members of the boating contingent are showing up every year.

I was warned that the Dealer Room, open only a few hours each day, resembled a feeding frenzy of hungry sharks. I found myself in a crowd three deep at Carol and Bob Paule's Sulphur Springs Steam Models stand, trying to buy a new pressure gauge for my Cricket. Rio Pecos, Bayou Limited and Potomac Steam Models had beautiful locos on display. Jim Stapleton's I E & W RR Supply had a tiered display of gorgeous English and Continental rolling stock opposite Sunset Valley's table, where I drooled over an exquisite three-way switch.

Hartford Products' display of built-up versions of their kits was true eye candy. Their new 7/8n2 kits have appeal, and the museum quality Barnhart log loader is amazing. I'm afraid I lingered too long at the Catatonk Loco Works display, eyeing their prototype Class A Shay and signing on the dotted line. I've already planned some mods I'll make on my logging branch, where I hope to see the new Shay hauling logs out of the woods this summer.

As with many events, it was meeting new steaming friends that provided the most enjoyment for me. Folks came from Japan, England, Australia, Mexico, Canada, Dutch West Indies, Trinidad, Switzerland, Jamaica and many U.S. states to attend. They are all, in Mr. Bass's words, "people who think it's fun building a loco that will burn their fingers and put oil stains on their comfy clothes".

I spent some time with Tom, Andy and Dave from Michigan who had perhaps the most interesting of travel sagas. The limo they hired at the airport conked out within sight of the Ramada, so they set out on foot carrying their stuff until a local in a loaded pickup offered help. They piled in and on the truck with two perched on the open tailgate to arrive at the steamup in grand style. Sonny Wizelman from California has had his work featured in some national magazines, including the January/February '98 issue of ***Steam in the Garden.*** He has found ways to hang an amazing amount of detail parts and other clutter on his Shay and rolling stock. I loved it!

Trent Dowler from Arkansas, a machinist by trade, had built several stationary steam engines. He was at Diamondhead to learn about steam trains and went home with a swap room "Jane" as the first piece of motive power for his planned garden railway.

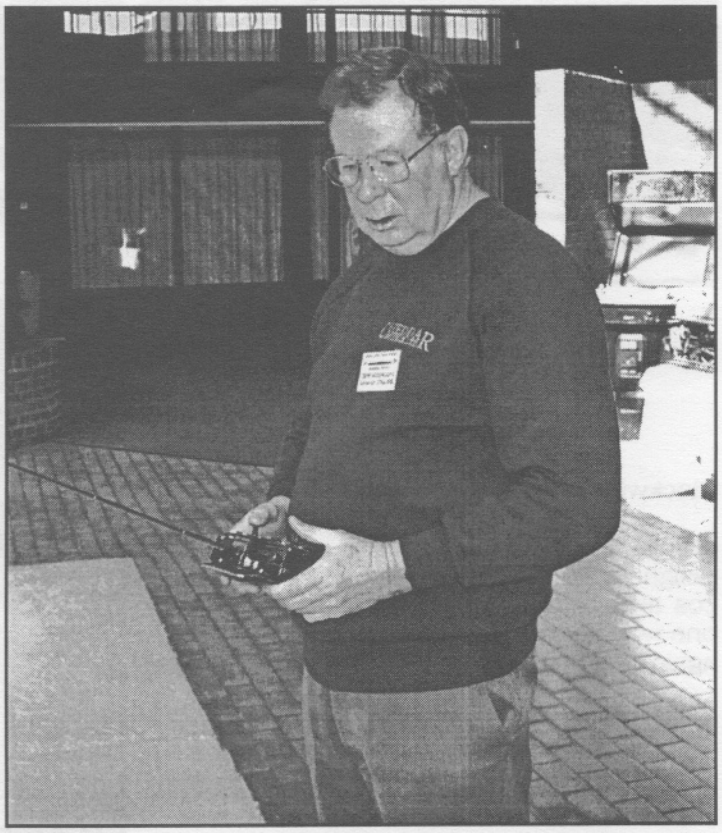
I'd guess that John Synnestvedt (Virginia) immersed himself in the Diamondhead experience as much as anyone. It seemed like each time I walked by the big track he was steaming or running a train, and he and his wife, Laurel, ate their supper each evening from foam takeout containers right at their work table!

While chatting with Keith Hawthorne I found out his occupation is running the "world's biggest garden railway", a full size locomotive test facility on many acres in Pueblo, Colorado. Norm Saley retired to Orlando from New England. He scratch-built in smaller scales for many years and has now turned his attention to live steam. I was so impressed with his craftsmanship that I sent my Colorado home with him for some modifications.

Another craftsman is Les Knoll from Illinois. He started out customizing his locos and has progressed to designing and building an articulated, compound Mallet which ran beautifully. I'm not sure of his age (I'd guess around ten), but I'll bet few folks had as much fun as Josh Curry. He steamed his and his dad

Jim's Cricket and Grasshopper like a pro, and enjoyed the indoor swimming pool as only a youngster can.

You can probably tell that I enjoyed my trip to Diamondhead and the National Small Scale Steamup. The action is nonstop, the folks are friendly and an added bonus was that I missed the worst western New York snow storms in years! I've already made my reservation for the Diamondhead 2000 steamup, and if you have an interest in live steam you should too. See you there!

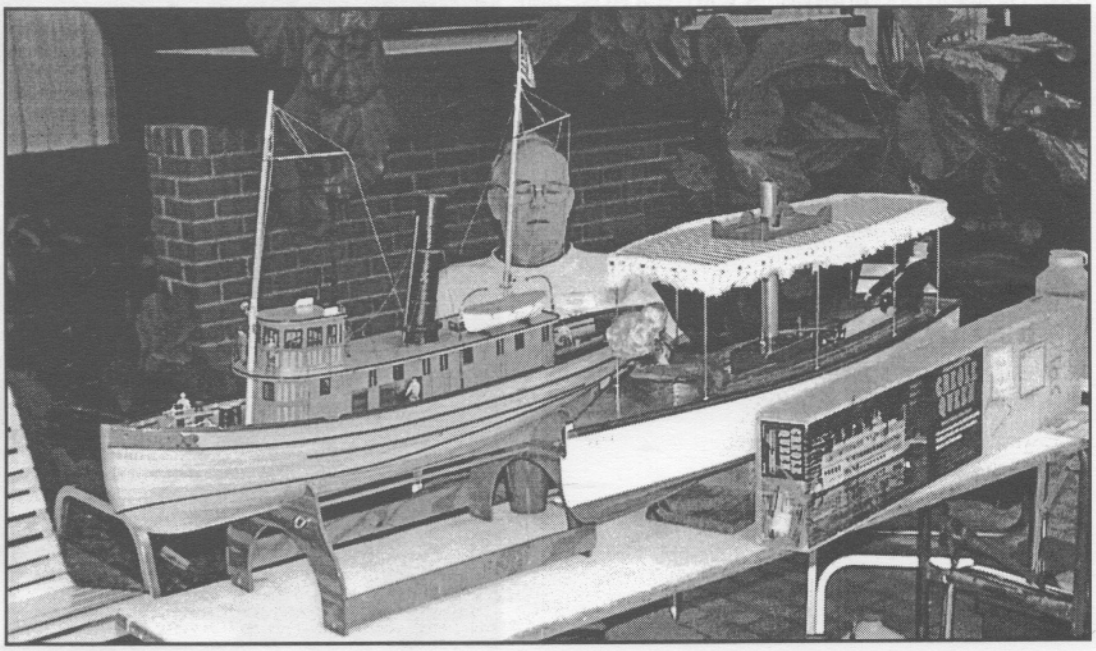


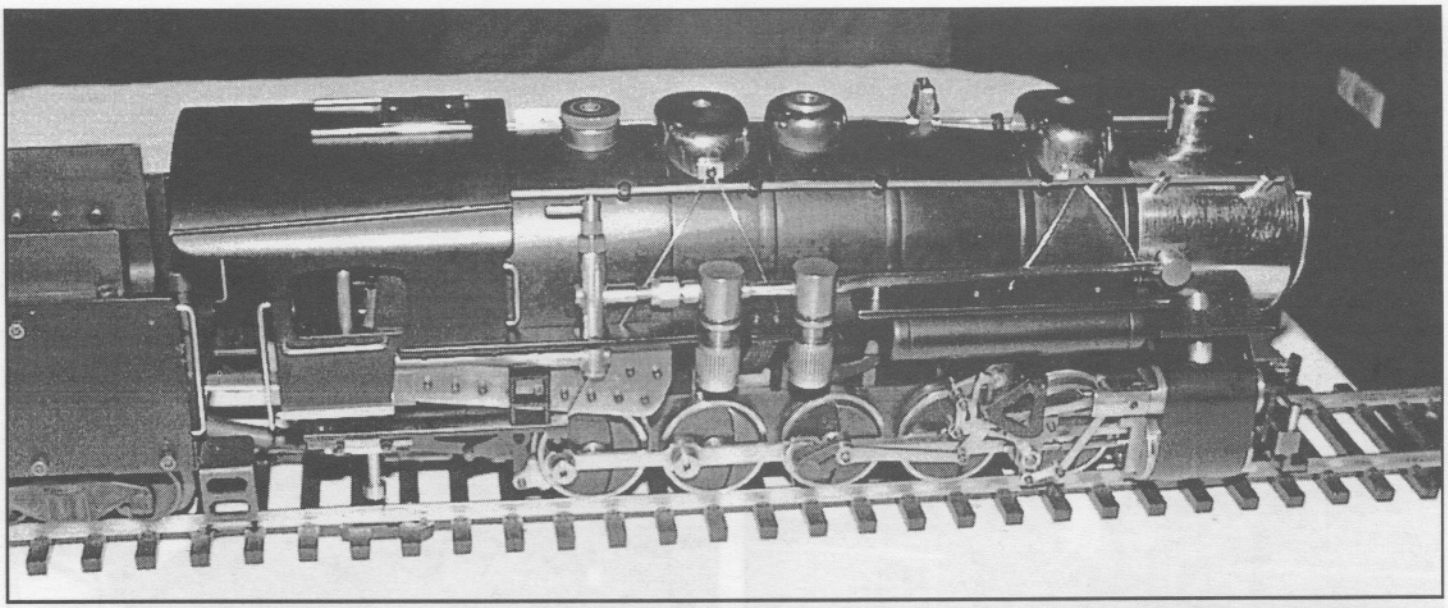
Clockwise from above...

Josh Curry (Maine) with his Cricket. Josh put a lot of miles on his engines during DH '99.

John Woodroofe from Cheddar Models (England) attended DH for the first time. He brought along some fine steamboat models and examples of Cheddar steam plants. The steam powered daiquiri mixer (!) was particularly well received.

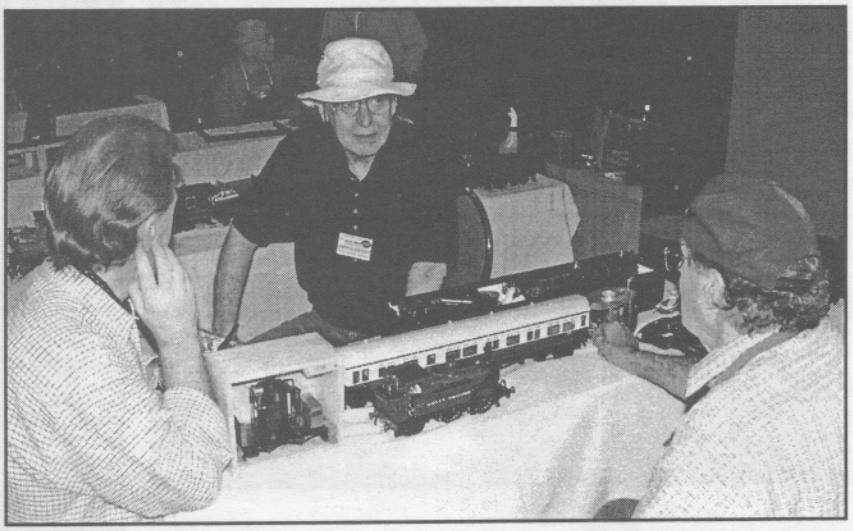
Bill Ford (Florida) displayed and sailed two nice steamboats. His Seguin really put on a nice show, both on the table and in the pool.





Clockwise from above...

Charlie Mynhier wowed the attendees with his delightful scratchbuilt O-scale loco. Charlie's locos always run as good as they look and this one was no exception. He has promised to do it again next year with an identical loco in gauge 1.



John Bloxdorf (Indiana) chats with Neil Rose (left, England) and Geoff Spenceley (California) in the steamer service and setup area.

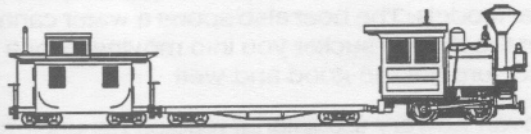
John Thomson (Texas) discusses geared logging locos with fellow Texan and serious live steamer Carl Malone. Just a few of Carl's locos are arrayed on the table in front of him.

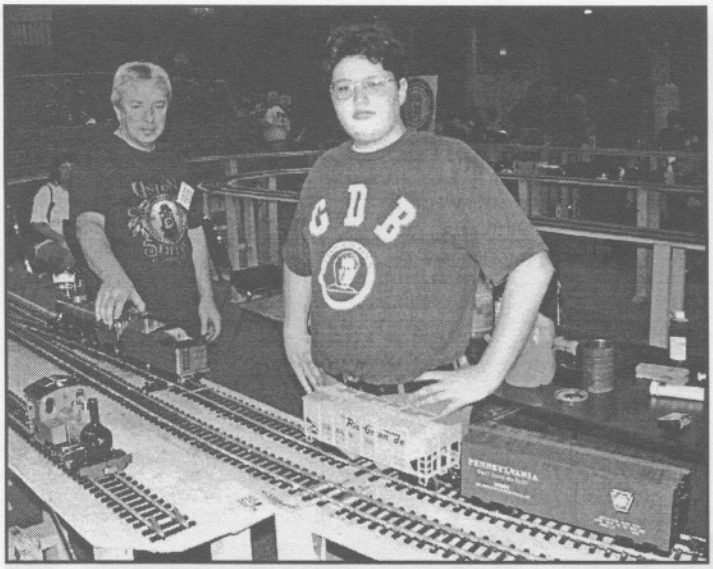
Clockwise from right...

Mike McCormack (Massachusetts) with his excellent scratchbuilt Forney.

Anthony DiMaggio (Florida) works on his steamboat, aptly named Skeleton Crew.

Josh Curry (Maine) gets some instruction from his dad, Jim Curry.





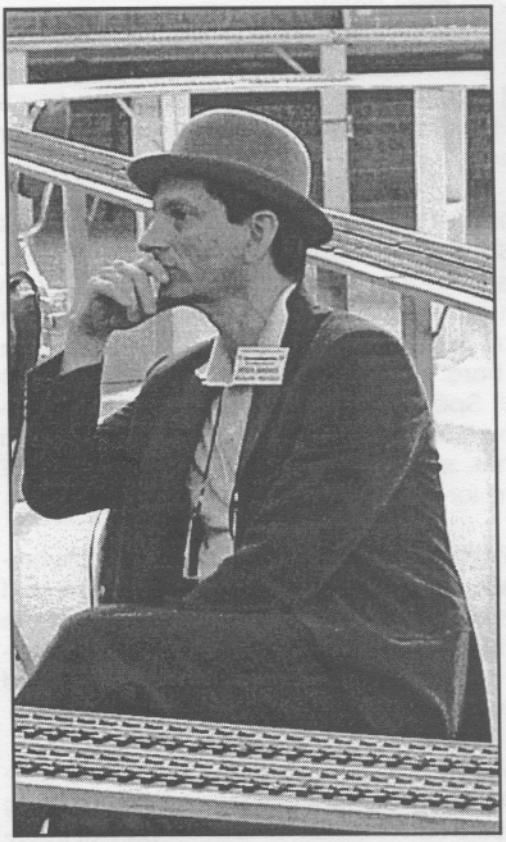
Clockwise from above...

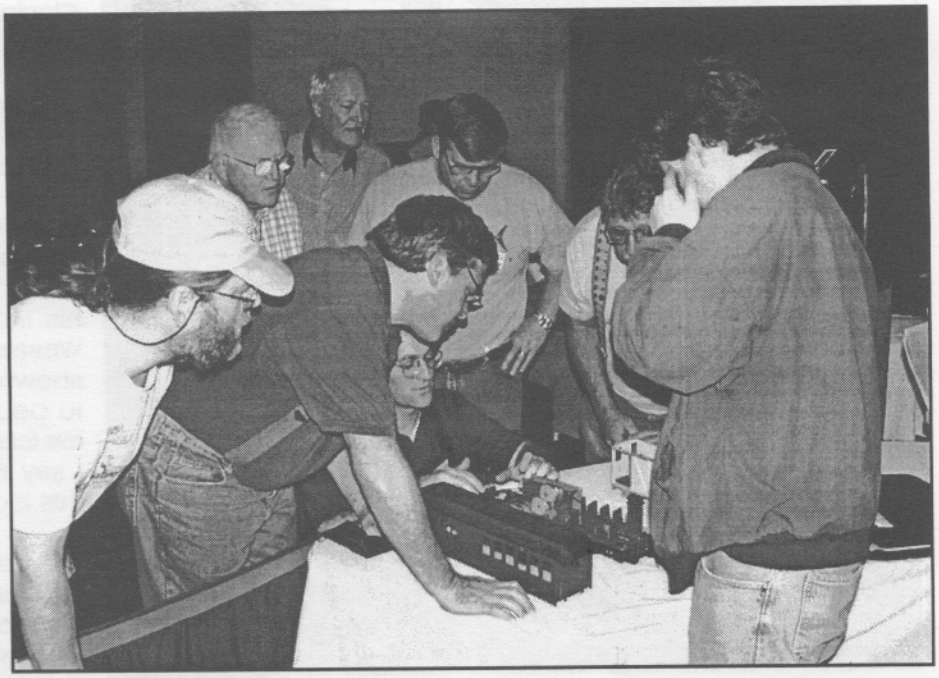
Jerry Hyde (left, Ohio) moves the new Aster Mikado pre-production model onto a siding while John Sudol (New Jersey) looks on.

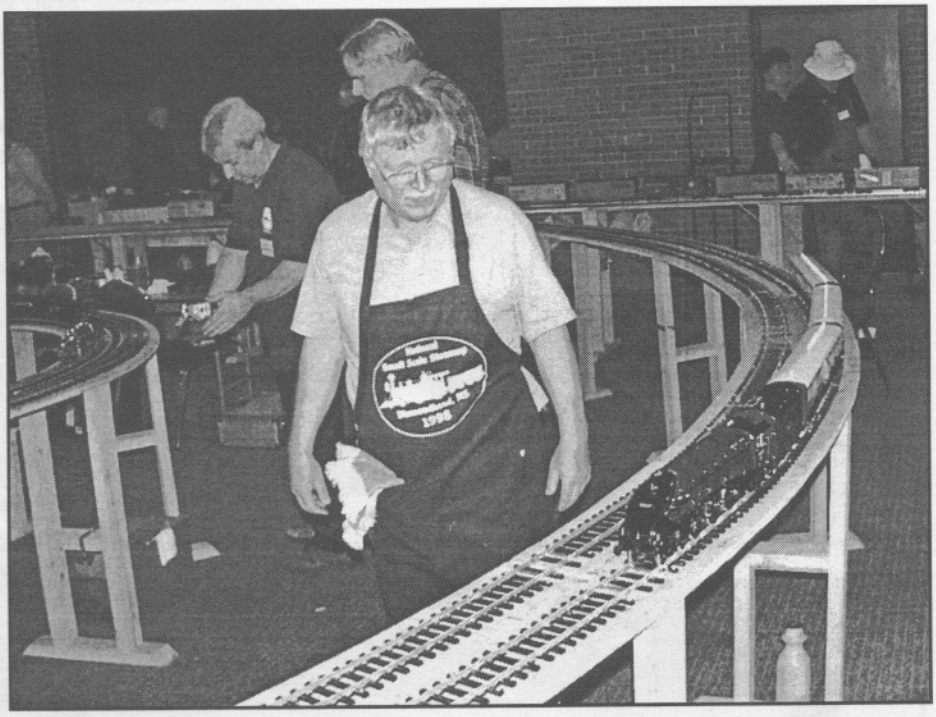
Joel Neshkin (Alabama) has taken to kitbashing and scratchbuilding like a duck takes to water. The loco closest to the camera is his latest....a 7/8n2 Climax featuring Keith Manison's 2-speed gearbox. Wonderful!

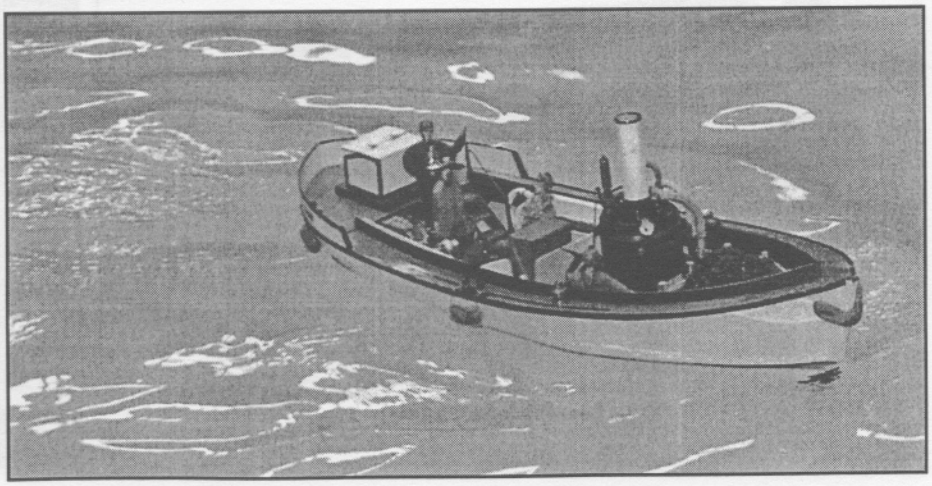
Donald Keller (Louisiana) prepares his dad's Krick Borkum for a run. This is really a fine performing steamboat...very stable and maneuverable. The power plant is by Cheddar Models. The boat also sports a water cannon, so don't let the Keller's sucker you into moving in for a closer look. He sure got me good and wet!

Jovan Lowery (Louisiana) readies his uncle's LGB Frank S. for another run. Jovan is a regular DH attendee with his uncle, Caleb Roberts (Texas).









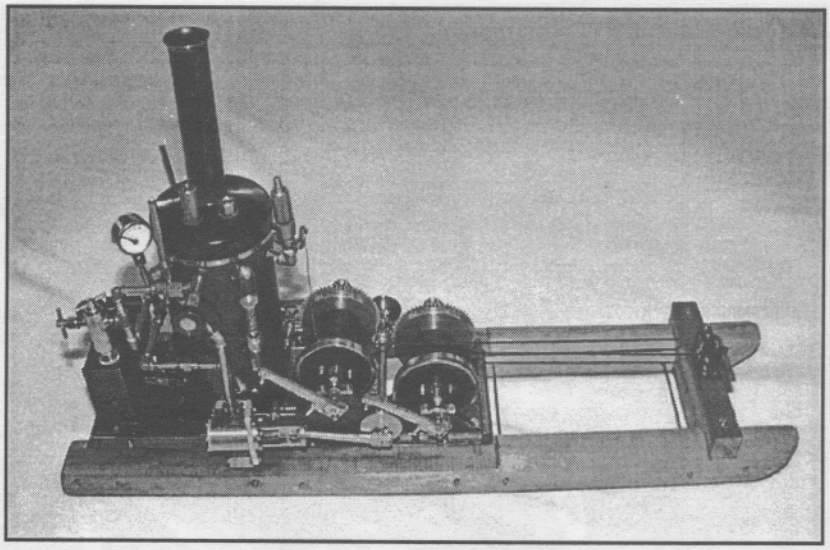
Clockwise from above...

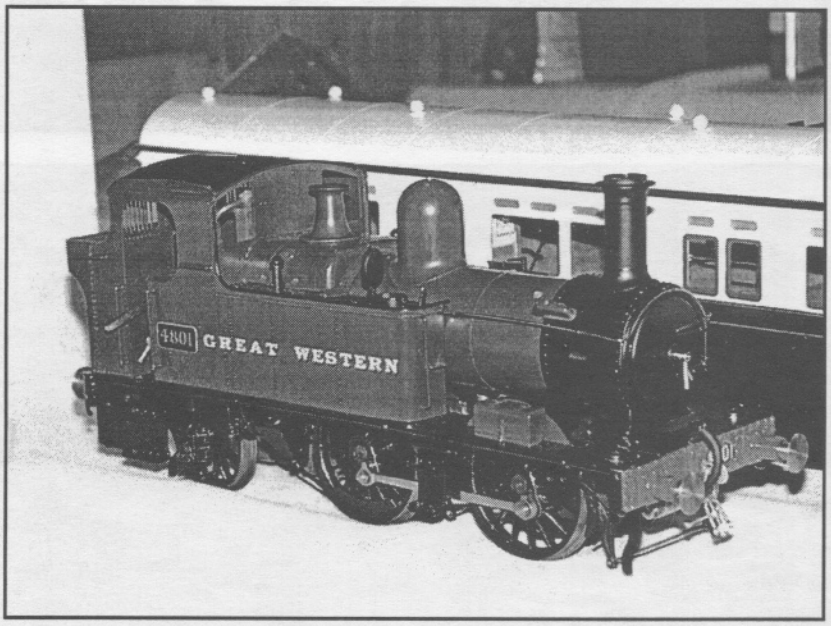
Peter Jobusch (Maryland) contemplates the situation while serving as Track Marshal. The derby lent an air of dignity and authority (in lieu of a healthy stipend) to those who served.

Larry Bangham (California) put on a dynamite presentation on his "drag car", which is designed to work a loco, even on level track. The assembled throng in this photo were mesmerized by the working examples he brought along for Show & Tell.

Bill (also known as Beel, thanks to my typo on his badge) Payne (Kansas), shepherds his Aster Silver Link and train around the big track.

Don Keller's (Louisiana) Krick Borkum steams around the pool. This boat could really move! See that crate on the rear deck? Don't move in for a closer look! (see caption explaining why elsewhere in this photo coverage)





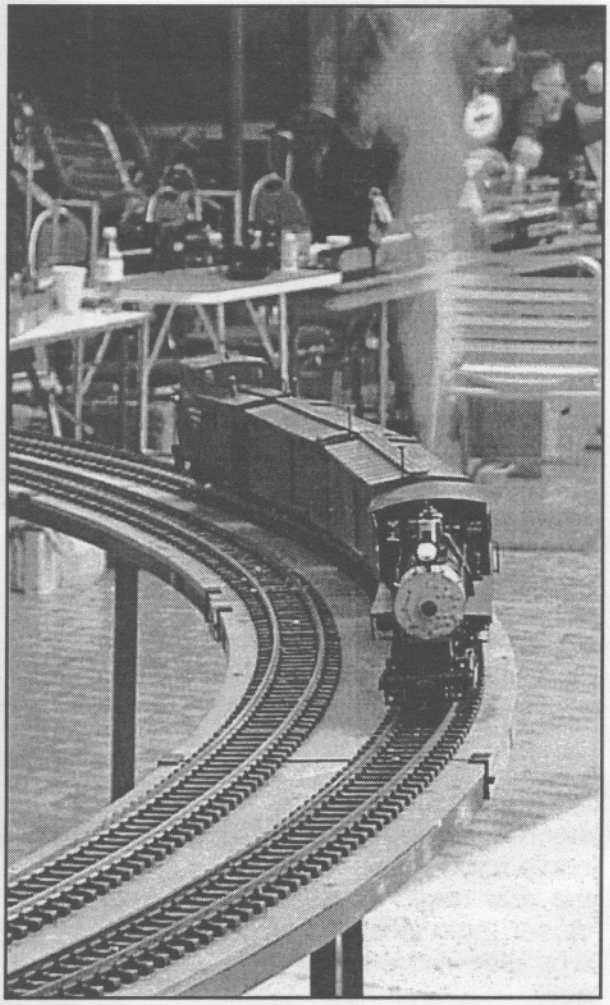
Clockwise from below...

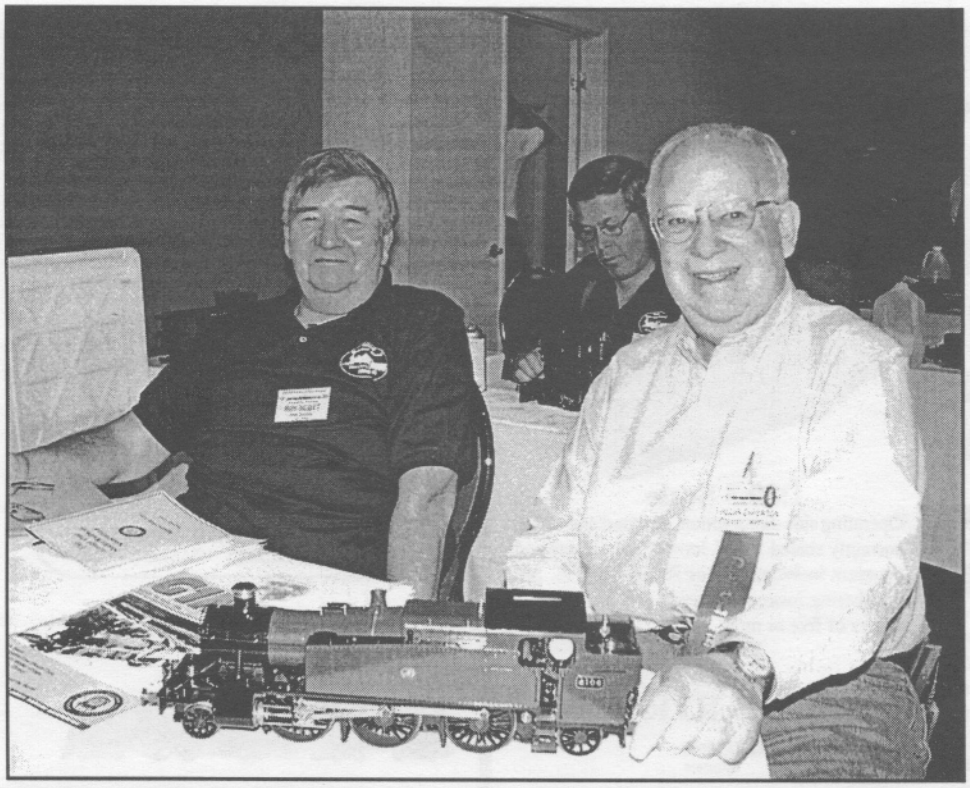
A little Colorado narrow gauge loco comes around the bend on the Istra Metalcraft PETS track with a short consist. Sorry, but the owner is unknown.

Neil Rose of Finescale Models (England) has established a fine reputation for his rolling stock, and it seems that he's off to a good start with his first steam locomotive offering, the Great Western Railway 48XX 0-4-2T tank engine shown here. This particular locomotive belongs to Geoff Spenceley (California), one of the nicest fellows on the live steam circuit. He insisted I say that, since he's working on a review of this loco for us right now!

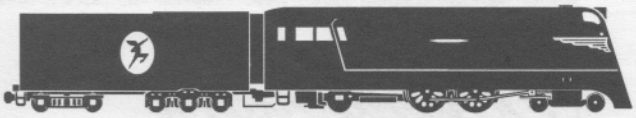
Jim Montgomery's (Washington) amazing working steam donkey. A beautiful piece of work and a necessity for getting the big timber out of the woods in the Pacific Northwest. Jim's craftsmanship is outstanding, and I always look forward to seeing his latest project at Diamondhead.

Andrew Pullen (England), Peter Jobusch (Maryland) and Kattchan Tanabe (Japan & Mississippi) enjoy a little camaraderie and horseplay at trackside.





Start making plans and reservations NOW to attend Diamondhead 2000 Hope to see you there!



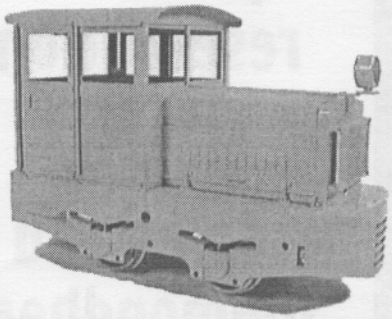
Clockwise from top...

Roy Scott (England) and Allan Caperton (Kentucky), both veteran steamers, enjoy a quiet moment at the Gauge 1 Association stand.

Richard Finlayson (California), seen here setting up his Trail Creek stand in the dealer room, has done the steam community a huge service by establishing a web site just for us. Check it out at ‹www.steamup.com›

Sonni Honegger (Arkansas) brought this loco, which I unfortunately was not able to get any information about for this issue. C'mon, Sonni....tell us about it!

Whitcomb
1:20.3 Scale



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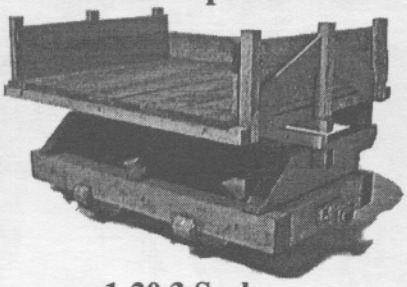

1:20.3 Scale

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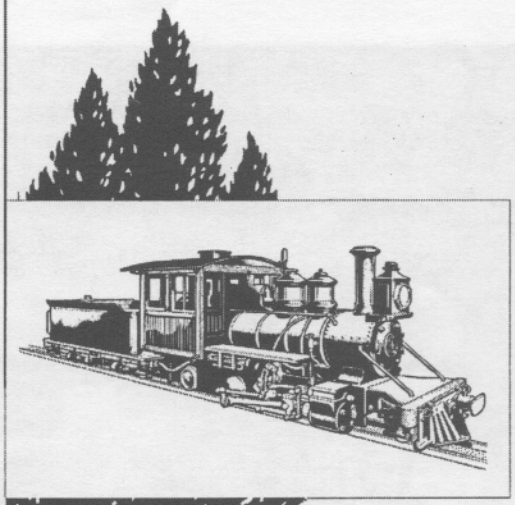

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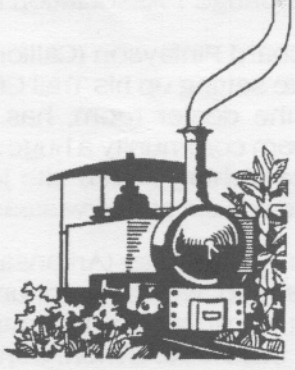

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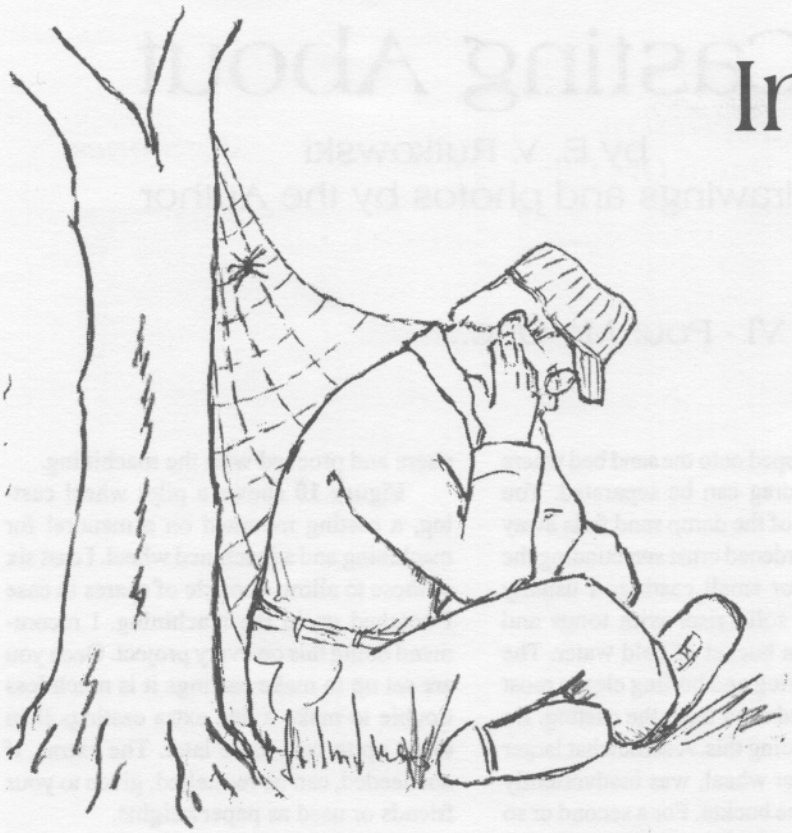
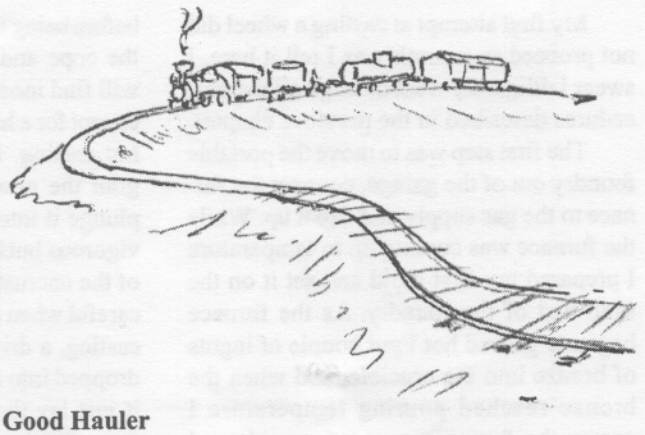
Inside Track

by Larry Bangham



Paramount Piddlings and Stellar Smidgens...useful tips and hints for the home workshop



This column wil be a semi-regular feature, and will depend to a great extent on input from you, our readers. If you have a useful tip that has worked for you, send it in and share it with your fellow steamers!

1. Instant siding

If you have a project that requires board siding like a wooden water tank, and you would be satisfied with stand off detail, you can save yourself oodles of time by using a plastic 'bamboo" roll up shade. Remove the string ties holding the plastic strips together in the area that will be glued down, leaving enough ties above and below to hold the "boards" in place. I flattened the area to be used by standing on it. The boards scale out to about 6 inches wide in 1:22.5 scale when flattened. With a little coaxing they will even work on a tapered surface like a C&S water tank.

I used an old metal bucket as a form for my tapered tank. I applied plastic floor tile adhesive to the form and rolled the piece of shade around it. Hold the "boards" in place with string and trim off the top and bottom. Before the adhesive sets up adjust the taper by opening up the bottom and closing up the top.

After the hoops are in place and it is painted, from two feet away, you would swear that it was laid up with 86 individual boards.

2. Paint Pots

If you mix your own paints for finishing or weathering your models, plastic cups work great for either water or petroleum base paints. My wife is a Jello Pudding addict so I have an endless supply of cups. If you get interrupted in the middle of a job, stack an empty cup onto your paint. Dabs of paint can be kept for a day or two this way.

3. Good Hauler

A roll up canvas firewood carrier makes a good transporter for carrying a loco or a few cars from the shop to the layout.

4. Pump Improvement

If you are dissatisfied with the performance of your Catatonk Heisler water pump, especially when working against boiler pressure, you probably have a leaky inlet check valve ball seat. To fix this problem, remove the stud from the water outlet banjo fitting. Lift up the banjo fitting far enough to remove the ball. Lay the engine on its side and remove the two screws going through the bottom of the water tank. Pop the pump loose (it may be bonded to the floor with sealant). Remove the inlet valve seat (brass fitting on bottom of pump inlet). **Don't lose the ball!**

Compare the two balls for surface finish. Use the smoothest, shiniest one for the pump inlet. Examine the seat face for a ridge around the hole. If there is a ridge or unevenness around the hole, use a fine flat file and resurface the face. Or chuck it up in a lathe and reface. Run a drill by hand through the hole to remove any burrs or flash around the hole. If all looks well, place the seat on a firm surface and with the ball on the hole, gently but firmly tap the ball once or twice with a plastic or brass hammer. This will break down the edge and remove any remaining unevenness. Reassemble in reverse order, using a little sealer on the pump mounting screws and banjo fitting.

Casting About

by E. V. Rutkowski
drawings and photos by the Author

Chapter VI - Pour Me One...

My first attempt at casting a wheel did not proceed as smoothly as I tell it here. I swear I diligently went through all the procedures described in the previous chapter.

The first step was to move the portable foundry out of the garage, connect the furnace to the gas supply and fire it up. While the furnace was coming up to temperature I prepared my first mold and set it on the sand bed of the foundry. As the furnace began to get red hot I put couple of ingots of bronze into the crucible, and when the bronze reached pouring temperature I swung the furnace cover to one side and tossed in four or five one inch lengths of flux covered bronze brazing rod.

Grasping the crucible with the tongs I poured the molten bronze into the mold, following the advice given in the texts to pour rapidly until the riser was filled. Within a couple of seconds I began to suspect that something was wrong. The molten bronze in the riser was bubbling and boiling and smoke was pouring out of the mold. This continued for what seemed like a very long time until the metal had cooled and solidified. I opened the mold and knocked away the baked and loose sand to see what the trouble was. It seems I had violated a fundamental rule of sand casting - TAKE THE PATTERN OUT OF THE MOLD BEFORE POURING THE METAL!

After making a new pattern I tried again to produce a useable wheel casting. This time I pulled the pattern and placed it near the furnace so that I could see it before pouring the molten metal. I still do this following the maxim - "If you can't see the pattern don't pour!".

Now the mold should be given enough time to cool below red heat before being tipped onto the sand bed where the cope and drag can be separated. You will find most of the damp sand falls away except for a hardened crust surrounding the hot casting. For small castings I usually grab the now solid riser with tongs and plunge it into a bucket of cold water. The vigorous bubbling and boiling cleans most of the encrusted sand from the casting. Be careful when doing this. A somewhat larger casting, a driver wheel, was inadvertently dropped into the bucket. For a second or so it just lay there, and then with a whoosh the contents of the bucket erupted. Hot water and mud came down all over me from the steam trapped beneath the casting as it lay on the bottom.

After the casting cools down, you can clean off the residual sand with a wire brush. Inspect it for voids before wasting any time with further work on it. If there are any large voids, cut the casting up to be melted down for reuse. Very small voids might be salvaged with solder or epoxy putty if these will be painted over and don't materially effect the strength of the part. If the visual inspection shows the casting to be sound, cut off the riser sprue and any risers and proceed with the machining.

Figure 10 shows a pilot wheel casting, a casting mounted on a mandrel for machining and a machined wheel. I cast six of these to allow a couple of spares in case I botched up in the machining. I recommend doing this on every project. Once you are set up to make castings it is much less trouble to make a few extra castings than to set up to cast more later. The extras, if not needed, can be re-melted, given to your friends or used as paperweights.

With the experience of casting the pilot wheels under my belt I felt more confident in casting the eight drivers that I needed. The first chore was to make the patterns. With most locomotives there is an obviously heavier counterweight on the driver which is connected to the piston, so I chose to make the pattern for the light drivers first. Later I would use this same pattern with a small re-work to yield a heavy counterweight. This pattern is shown in the drawing **(Figure 11)** and the photograph **(Figure 12)**. Note again the important provision of generous draft on all necessary surfaces. I use more draft on these small patterns than the books on foundry practice recommend. This is an especially valuable practice for closely spaced surfaces such as the driver spokes, permitting them to be withdrawn without crumbling the sand walls.

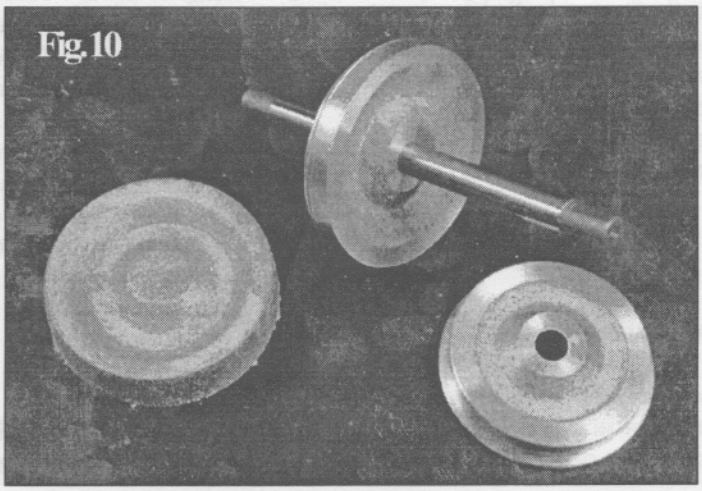
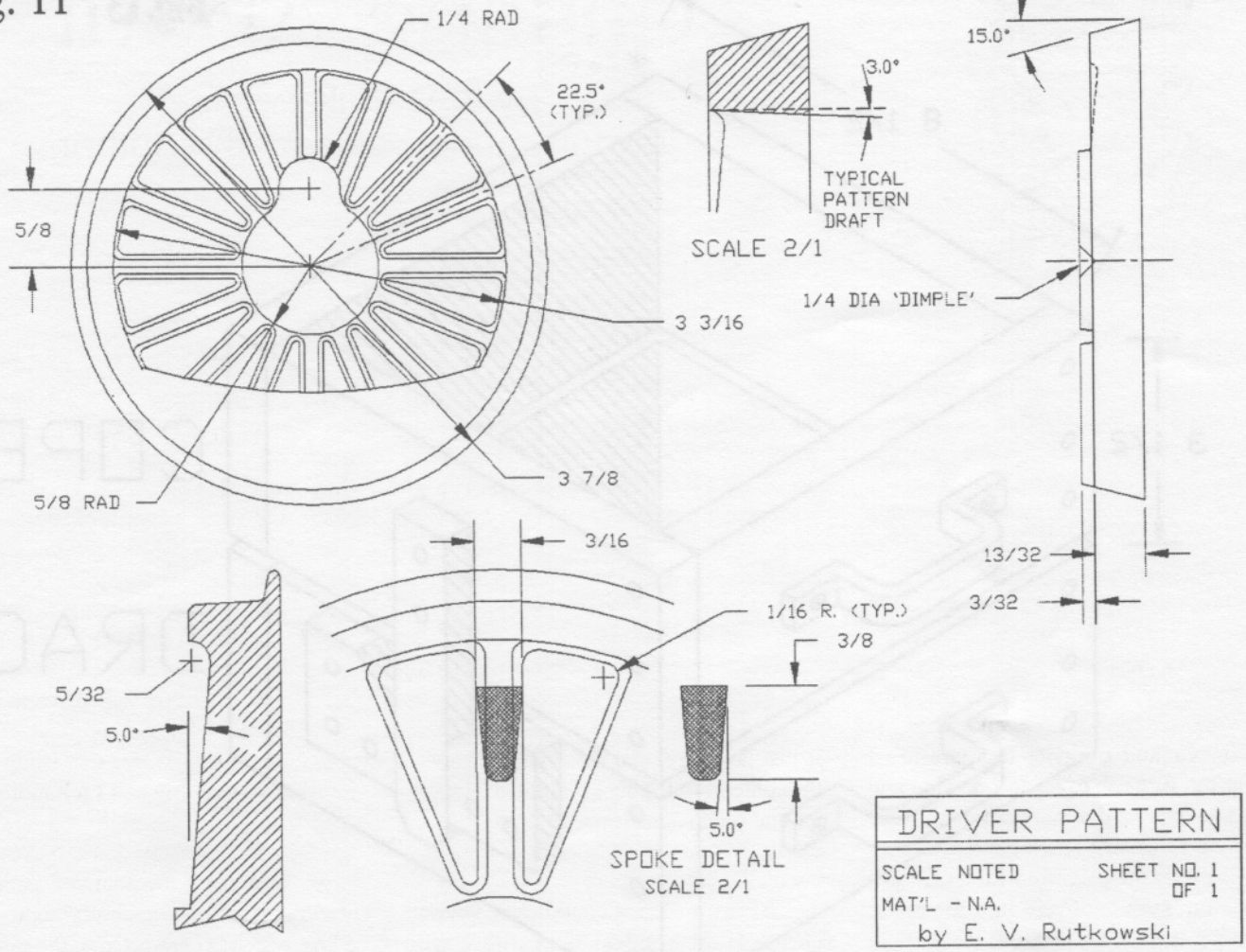


Fig. 10

To cast the drivers I needed a larger flask than that used for the much smaller pilot truck wheels. Large steel flasks are available from foundry suppliers but these are heavy and cost money. Being both weak and stingy I decided to make my own. A number of the referenced texts tell how to do this and it is a rela-

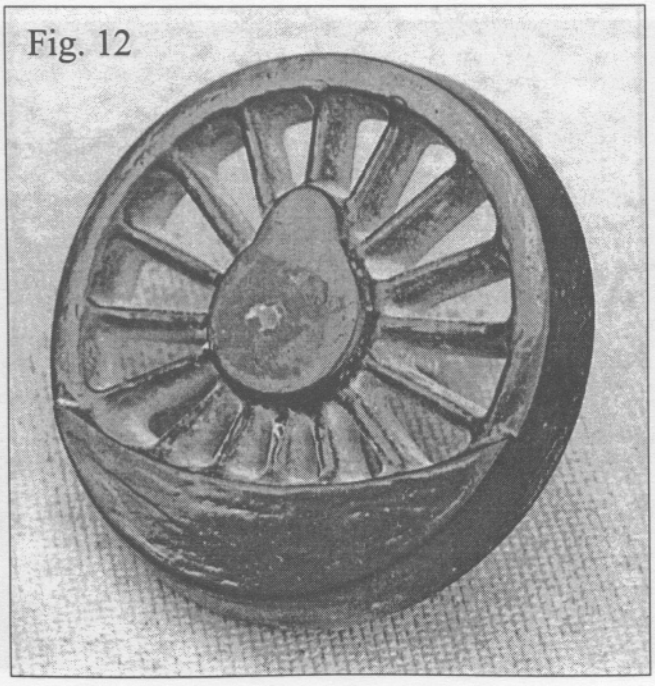
Fig. 11



tively simple job. The drawing for the flask I used for the drivers is shown in **Figure 13,** and **Figure 14** is a photograph of it. The dimensions aren't critical but you should allow a couple of inches from the pattern to the nearest wall of the flask. That molten bronze is HOT and wood burns.

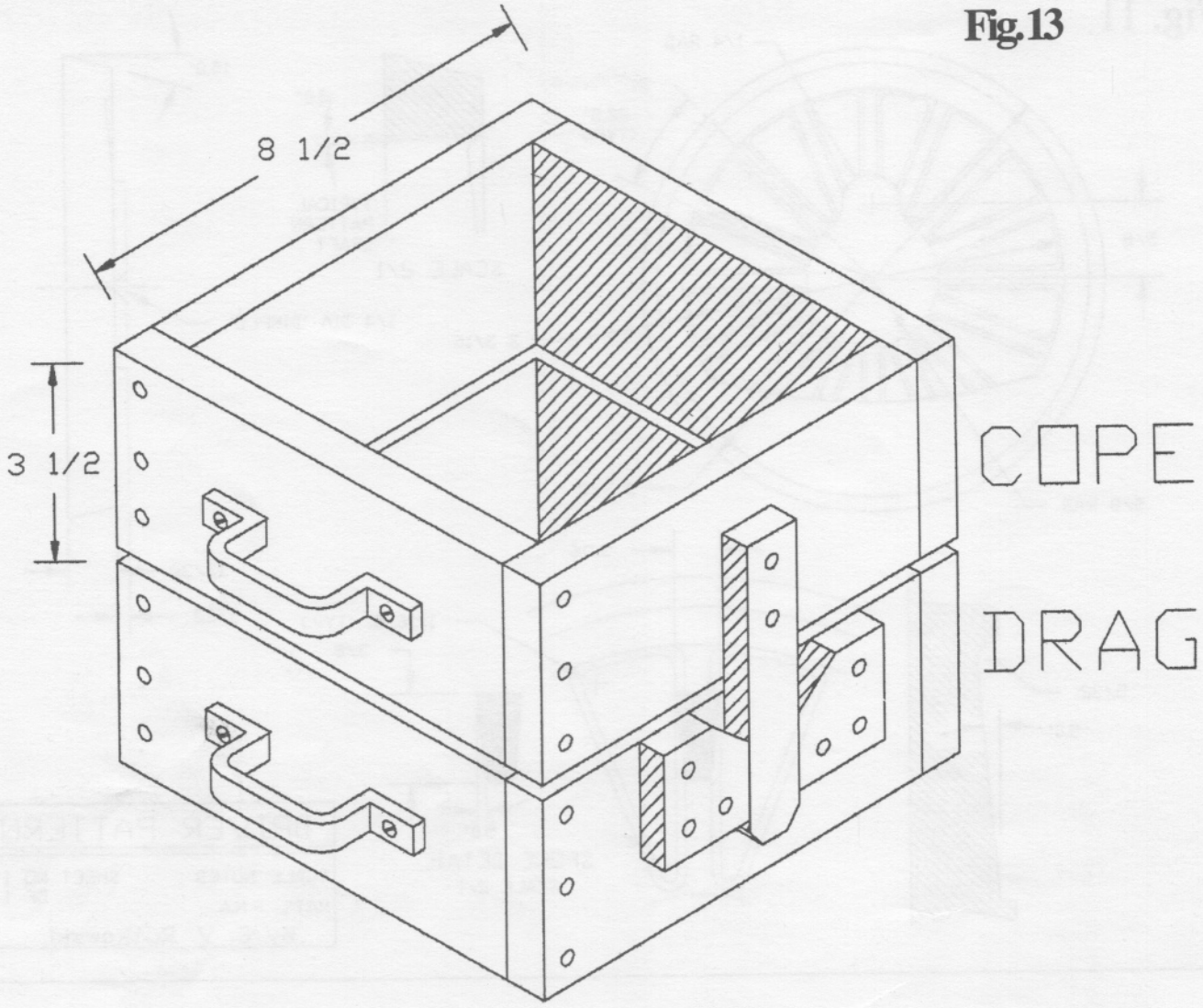
I did find out that the depth of the cope and drag are related to the length and width. My first flask was also made from the same 1 x 4, but I made the sides one foot in length thinking it would accommodate larger patterns than the driver wheel at some future time. I found that I could not get the sand to stay in the cope. After filling and ramming, when I lifted the cope the sand dropped out. By reducing the size of the flask side length to that shown in the drawing, this problem was eliminated. I have never found any formula for the length to depth ratio that is right for the design of a flask. I suspect it varies with the size of the sand grains and the dampness. However, if the sand keeps dropping out of your flasks make them deeper.

Fig. 12



I cast eight good light drivers, again allowing for something unforeseen happening later on in the machining. (And it did. But that's another story.) **Figures 15** and **16** show the sprue side and outer face of one of these castings. After completing the casting of these light drivers I machined them, mounted them to their axles and final machined them to make sure I had three good wheel sets before I modified the pattern for the heavy counterweight. I did this by cutting some 1/32" model builders plywood to cover the pattern spokes appropriately. These covers were rubber cemented to the

Fig.13



pattern and spackle was used to fill in any gaps. This technique made the process reversible without destroying the original pattern. The new pattern was sanded, painted and sanded again until ready for making the new castings. Again I made more than enough raw castings

Figure 17 shows the final result of my first attempt at casting - the completed pilot truck and eight drivers mounted to their frame. Besides solving the problem of obtaining wheels made of a durable material I now had wheels which were designed to look like those of the locomotive I was modeling, allowing for the larger flanges needed. A second benefit was gaining the confidence to proceed to the next step; learning to make the cores necessary for casting the cylinders.

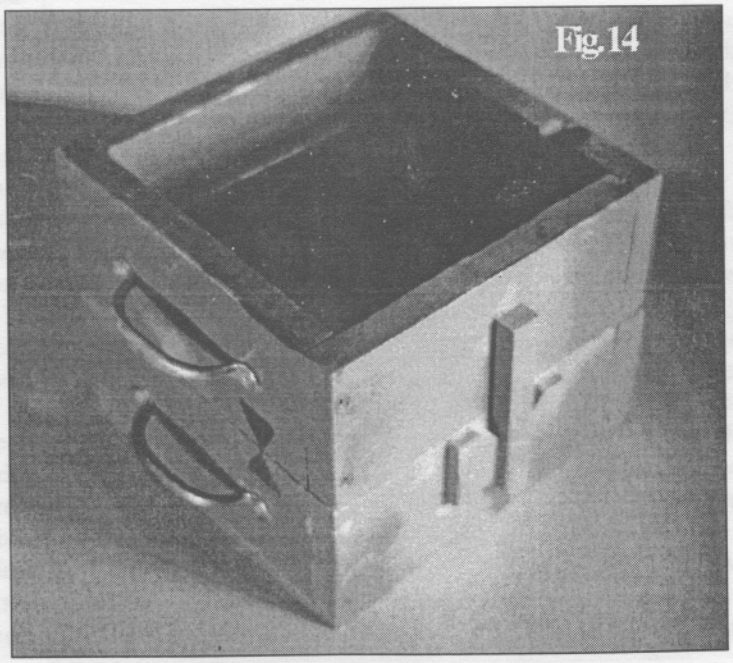


Fig.14

Having tried it, I now look at many model building chores with a different viewpoint. Should I machine it, assemble it from parts or make up a pattern and cast it in one piece? It's nice to have a new alternative.

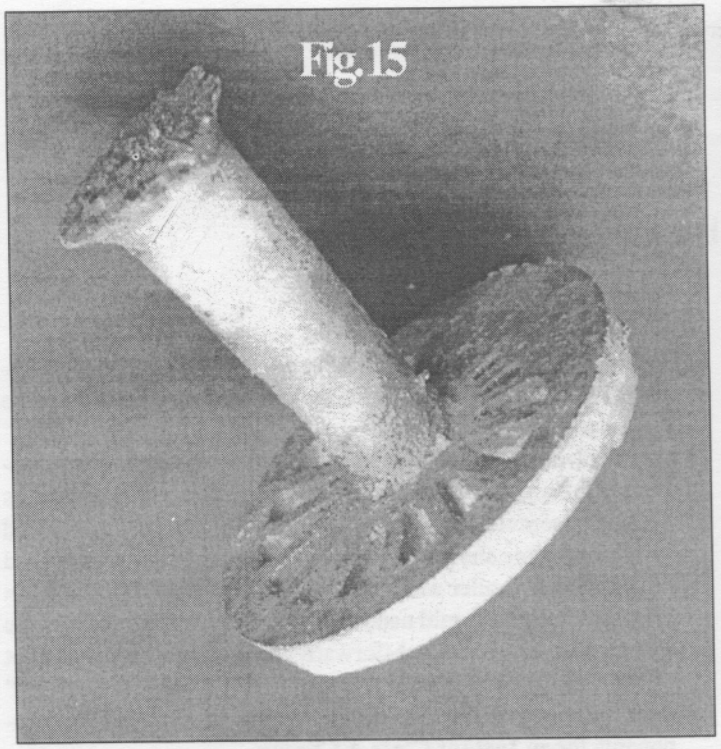


Fig. 15

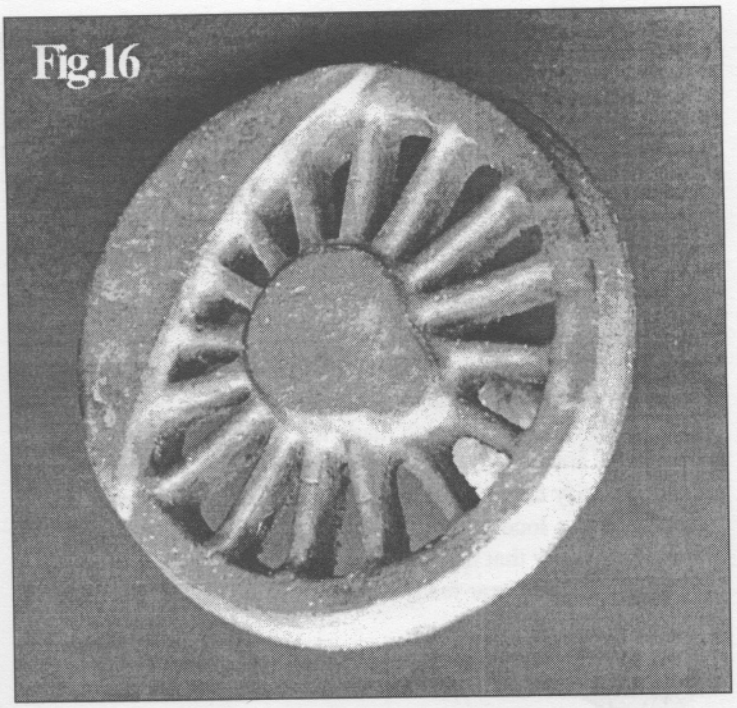


Fig. 16

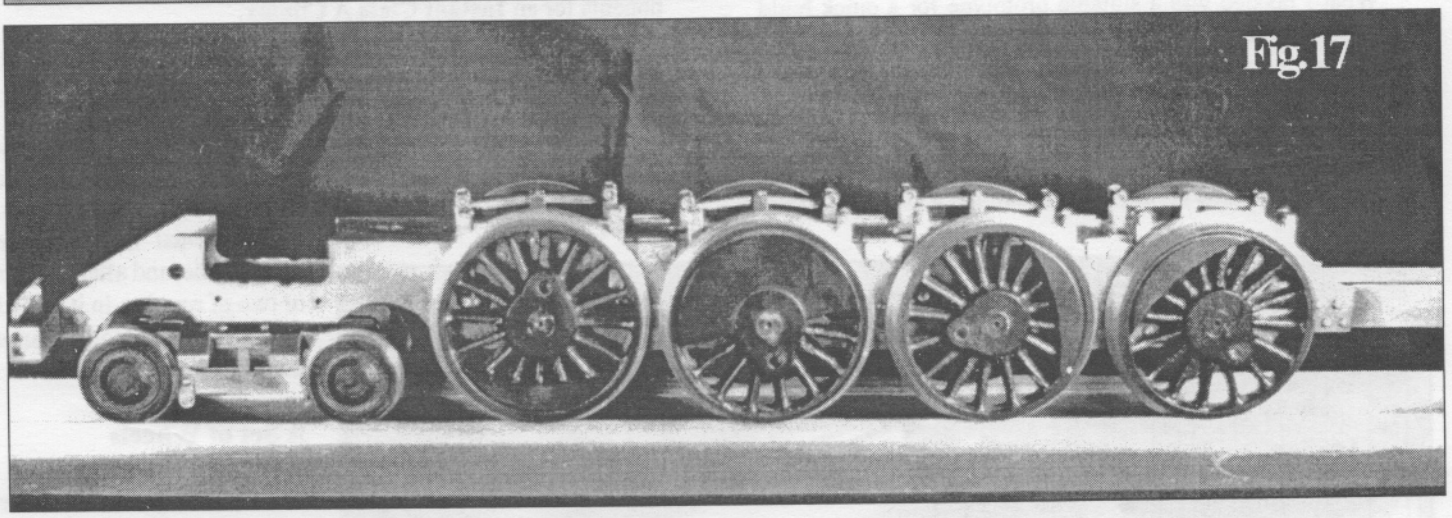


Fig. 17

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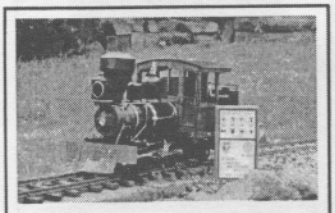

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Instant Climax

text and photos by Keith Manison

I have been following the Vest Pocket Climax series with interest, and working with Clark Lord to put his experiences in building the VPC on the web made me hanker after one of my own. But I am already building too many locomotives, and I couldn't justify taking a lot of time from them. However...I did want to have a locomotive to run at Diamondhead in January 1998, and I knew that my two LBSC designed gauge 1 engines would be nowhere near ready for that.

Class A Climax

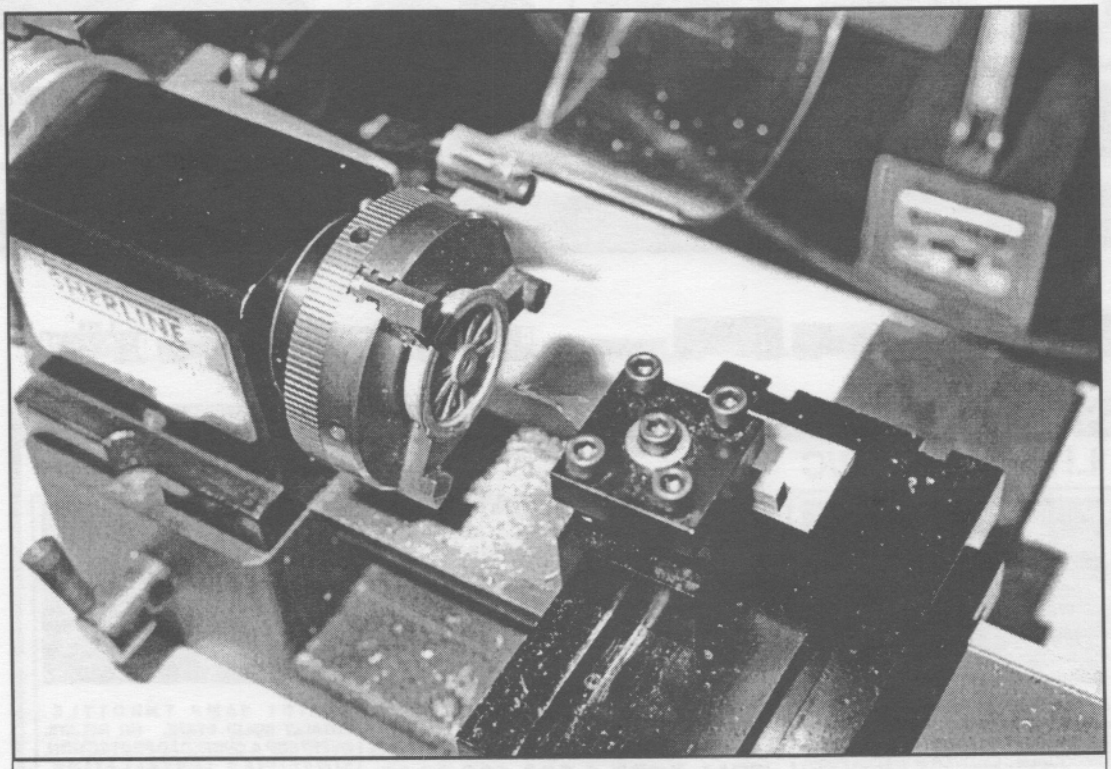
What I needed was a suitable prototype for a quick build locomotive. I must admit to being more interested in getting a working engine rather than a rivet counter's dream. However, I did want it to look like something that did exist.

The book ***Articulated Locomotives*** by Lionel Wiener is a must for enthusiasts of articulated and geared locomotives. Looking thorough it I came across a photograph of a Class A vertical engined Climax owned by the Seattle Car Construction Company. It looked ideal for a quick build locomotive. Could this be the answer?

Well, I saw a CliShay type locomotive running at Diamondhead '97 using a Graham Research vertical twin steam engine as the power source. The Graham twin is sold as a fully machined kit, so little time should be involved in assembling it. I also had a Roundhouse boiler available, so no time would be taken in making a boiler. I would need trucks, but the construction of the VPC trucks looked straightforward and shouldn't take up a lot of time. And then I'd need a frame. Well, I had a slab of 1/4" thick aluminum plate, 3" wide by 16" long. Perfect! All the components for an **Instant Class A Climax.**

Motive Power

The Graham twin was purchased and assembled in a week of lunch breaks at my desk at work. I ran it in using my Sherline lathe and then fired up the Roundhouse boiler to test it on steam. No problems! This is a nice little engine, and after an hour or two of running-in it turned over nice and smooth at quite low speeds.

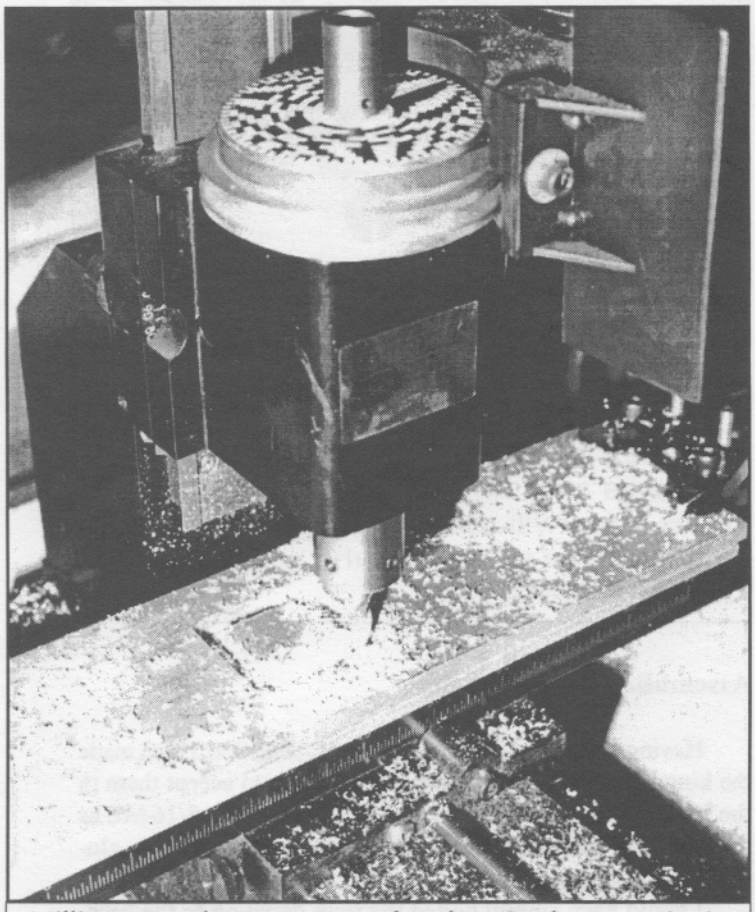


Boring out the axle holes in the VPC wheel castings on Sherline equipment. The small boring tool was ground from a 1/4" HSS tool blank.

A Set of Wheels

Next step was to make the VPC trucks, which I did exactly according to Mel Ridley's instructions and Clark's advice. I do have one comment on the truck castings. Generally they are of excellent quality, almost too good. Let me explain. Normally when I machine wheels I drill the axle hole first, then machine up the rest of the wheel with it mounted on an arbor that is set to run true. In this way the treads and flanges are truly concentric with the axle. The VPC wheel castings are good enough to use without having to machine the treads or flanges.

However, that means that it is vital that the axle hole be drilled truly concentric to the tread, and that is what I found to be a little tricky. The reason is that the castings come with the axle hole cast in the rough. My wheels only needed these holes to be opened out about 40 thou. But attempting that with a twist drill is tempting fate, as the drill will try to follow the cast hole, which is not exactly centered. I resorted to grinding up a tiny boring tool and bored out the holes, and that worked just fine. I think it would be better if the wheel castings were supplied without the axle hole. Then they could be center drilled, drilled and reamed on the lathe and the resulting axle hole would be where you put it, not where the casting wants it to be. A similar comment would apply to the crown wheel and pinion castings. Anyway that is my only grouse. The trucks went together well and I ran them in using the Sherline. They took two weeks of occasional work in the evenings, about a dozen hours total work.

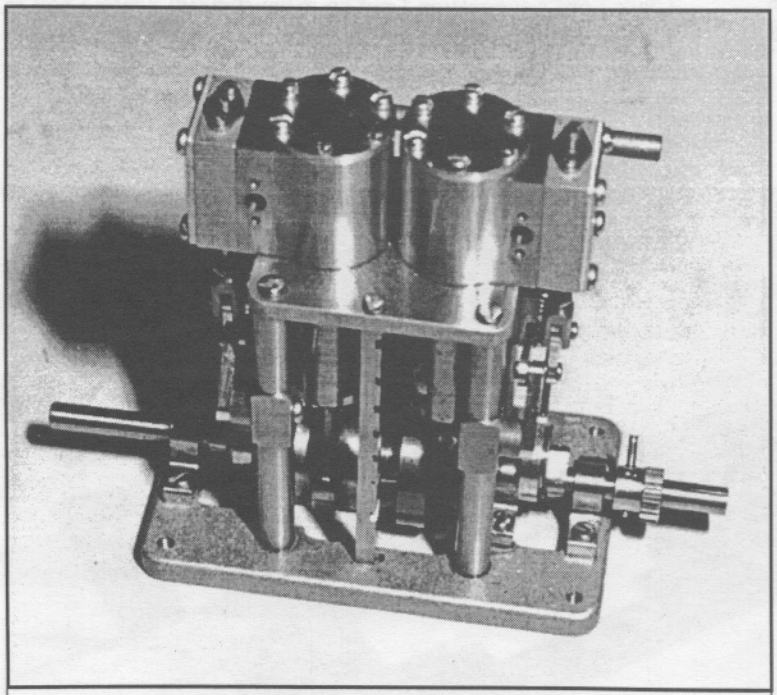


Milling out the aperture for the Graham twin in the 1/4" aluminum plate. The plate is supported on a sacrificial piece and milled right through.

Designing the Locomotive

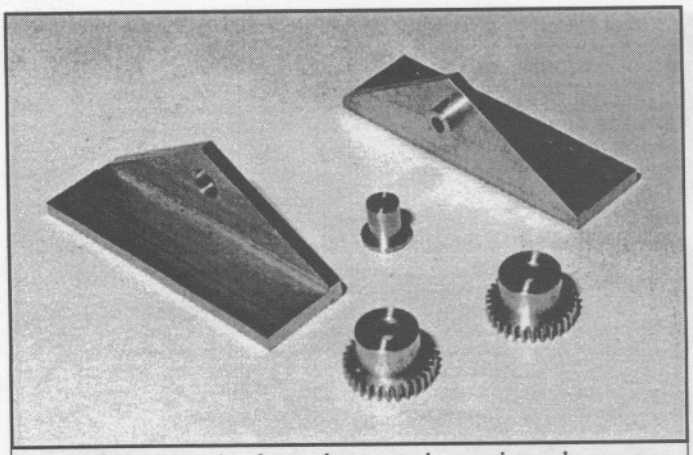
Now I was on my own. I had the engine, boiler and trucks, but the rest would be new territory. The first thing was to set out the general arrangement of the major components of the locomotive, and I must admit to using a strange combination of high and low tech cut and paste techniques. I proceeded as follows:

I photocopied the full sized drawing of the VPC in the Nov/Dec issue of *SitG* and cut the trucks out of the copy. I also had a full sized GA drawing of the Roundhouse boiler, but this was facing the "wrong way" so I scanned it and flipped it using image manipulation software and printed it out. I then cut out the boiler outline from the printout. Then I photocopied the Climax photograph from the book using the enlarge feature on the copying machine at work. This was a trial and error process and I played with the enlargement (I could adjust it in increments of 1%) until a VPC wheel placed on the photocopy was the same size as the wheel in the picture. I then placed a VPC truck frame on the blown up picture too, and the correspondence was very good. So I now had a full sized photo of the model locomotive.



The assembled Graham Twin, ready to install in the Instant Climax chassis.

Now came the fun part, playing with the cutout pieces to get everything to fit! It was soon obvious that the biggest problem, literally, was the boiler. The Roundhouse boiler was too big, but it was what I had, so some compromises would have to be made. I could dummy the smokebox and make it appear to start further back along the boiler to cope with the extra length. The larger diameter I'd just have to live with. The 16" length of the aluminum plate worked out just right, pure serendipity! I played with the truck locations and made them 3" in from each end. That gives 10" between truck centers, a tad over an inch more than the VPC's 8.15/16". The different type of gearbox I'd have to use would compensate for the extra inch. Clark Lord later e-mailed me some more Class A Climax pictures, and there was one with a nice fat boiler, so mine is not so non-prototypical after all!



Gearbox main brackets, phosphor bronze bearings and the two 24 tooth gears. The drive shaft will rotate in the bearings, and the gear arm will fit over the bearing inside the main brackets.

Assembling the Mechanics

Having positioned everything to my satisfaction, I then made the kingpins and drilled and tapped the holes to accept them in the baseplate. I threaded them 10-25 instead of 40 x 3/16 ME as they are being screwed into aluminum, and fine threads in aluminum is not a good idea.

I could have simply bolted the twin down on to the baseplate, but that would have made it a little high and would have given me problems with the transmission. So I decided I would mill out a recess to fit the engine's base under the locomotive baseplate and bolt up the engine from underneath. This lowers it by about 1/4". I also had to mill out a hole for the engine to poke through. The photos show the process on the Sherline mill and the finished product.

Transmission

With the twin mounted it was time to look at the transmission. What I wanted was a method of disconnecting the twin from the drive train so that I could move the engine around when needed, and also another 2:1 gear reduction to give me a total of 4:1. I came up with the gearbox design shown in the sketch and photos. The gears used were Boston Gear 32 pitch 20-degree pressure angle 48 pitch gears obtained from Small Parts in Miami. I used an 18-tooth gear on the twin's crankshaft and 30-tooth gears for the idler and drive shaft. Small Parts Inc. part numbers for the gears are GBS-4818 18-tooth gear and GBS-4830 30-tooth gear.

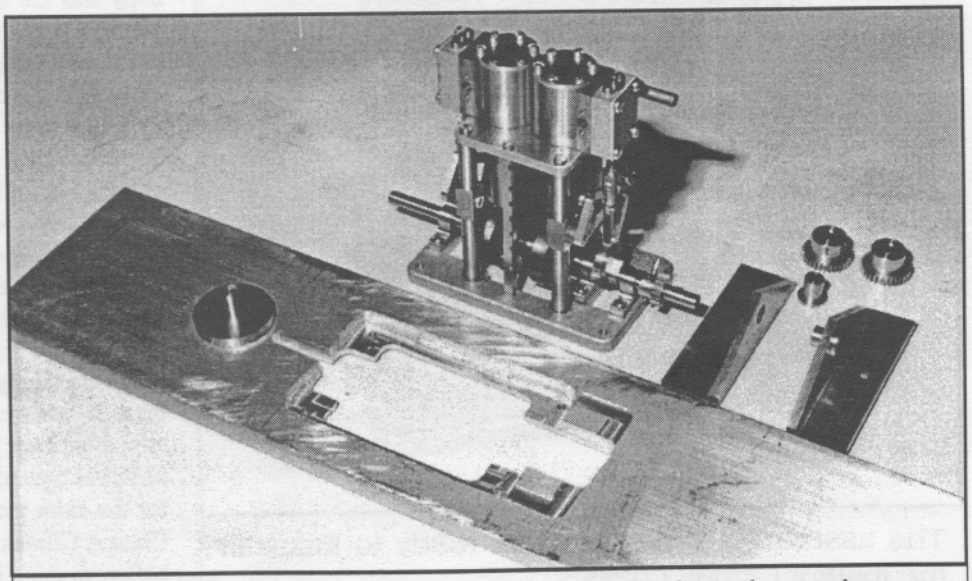
The gears were pinned to the shafts with tapered steel clock pins. All the other parts were machined from 1" x 1/8" brass flat and 1" x 1" x 1/8" angle. The lever is set up to have a slight over-center throw, so that it will not tend to come out of engagement when under power. It also moves the gears just slightly out of full mesh, which gives just the right running clearance. The transmission was thought up and made over a four- week period.

First Run

Once the transmission was assembled and installed I just had to test the locomotive. So I precariously bolted the boiler to the baseplate, connected up the steam line with silicon rubber tubing, and attached the butane tank to the back of the engine with a rubber band. The boiler was filled and then fired, and as soon as I had steam up I ran the twin in neutral. Now here was a funny thing. If I throttled right back so that the twin was just ticking over the rear end of the locomotive would bounce up-and-down on its springs, like an old car in a Laurel and Hardy movie. It just cracked me up! Anyway, after I had calmed down I put the transmission in gear, opened the throttle and gave it a gentle push. Away it glided, running really sweetly, but looking like nothing on earth! After a while I opened up the throttle and was amazed to see how fast it moved. Definitely not prototypical! It seems that I could put a bit more gear reduction in later on, perhaps a two-speed box, like the real thing.

Front and Rear

Now that I had proved the concept it was time to tidy up the engineering side of the engine and provide it with a proper smokebox and chimney and a rear water tank. I first made up a displacement lubricator, a stainless superheater (steam drier, really) and the dummy water tank that would hold the butane tank. At Clark Lord's suggestion I put an exhaust steam heating coil in the water tank so that it would warm the butane tank when the engine was used in cold climates. Silicon rubber plumbing on the exhaust side would allow me to bypass this for my warm Jamaican weather.

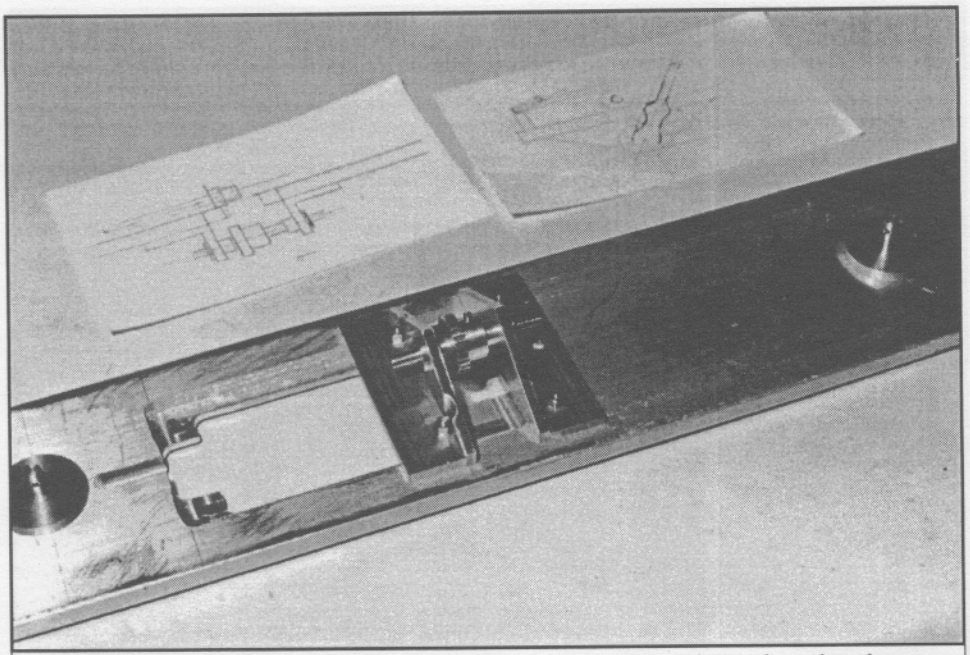


View of the gearbox parts and the milled out baseplate.

The smokebox was made up from a flat sheet of brass, rolled around a 2" dia aluminum bar and silver soldered to a 2" brass disk that would make the smokebox front. After pickling and cleaning, the whole assembly was mounted in my Sherline lathe and turned to a nice true cylinder. The inside was bored out slightly to be a press fit over the end of the Roundhouse boiler. Then a saddle was filed up from a piece of 3/8" square brass bar and mounting holes, 6BA clearance size, were drilled through the saddle and baseplate. The bottom of the smokebox was drilled and tapped 6BA.

The stack was a piece of brass tube. Some brass bar was turned up to make the base of the stack, and filed to fit the curve of the smokebox. The balloon spark arrester was made in two parts from thin brass sheet, cut to shape and rolled into truncated cones. These were then silver soldered together and the double cone assembly was silver soldered to the stack. Then the stack, with its base, was silver-soldered into the smokebox.

I then machined a smokebox door and attached it to the front of the smokebox with a dozen 10BA hex head screws. Yup, they are all threaded and actually hold the front of the smokebox on. To digress a little, later on I tried lighting the boiler with a flame held to the top of the stack. No way! I would get a flame at the chimney or a loud pop and nothing. There was no way I cold get the flame to propagate back to the burner. So I ended up by drilling a 1/2" hole in the front of the smokebox and turning up a plug that looks like a smaller smokebox door to fit in it. Lighting off is now accomplished by removing the plug, applying the flame to the front of the smokebox, and replacing the plug. Later I may make a hinged door.

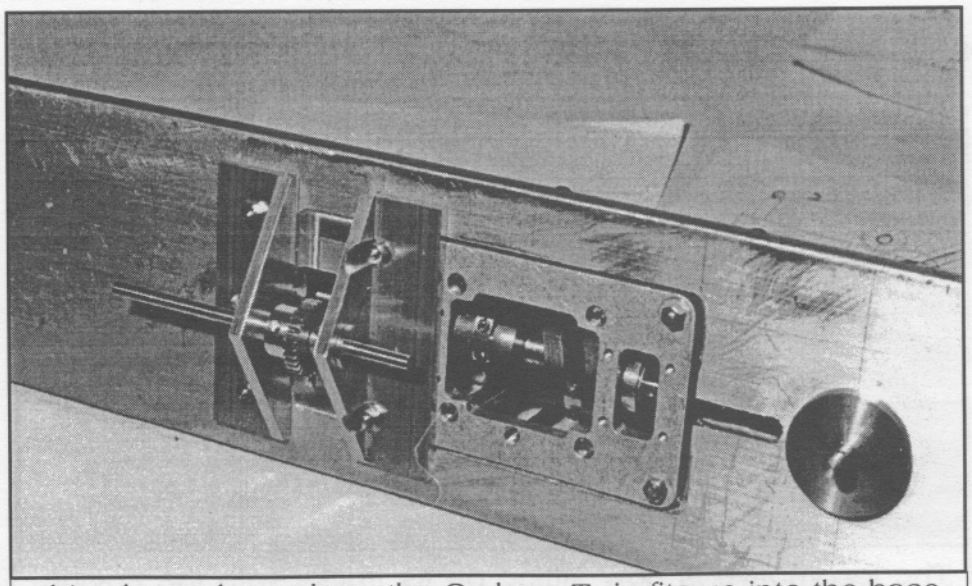


This photo shows the gearbox brackets fitted under the baseplate, with the bearings and drive shaft in place. This was a trial fit-up to ensure the brackets were aligned properly, and the drive shaft rotated freely. The author's post-it design sketches are shown in the background.

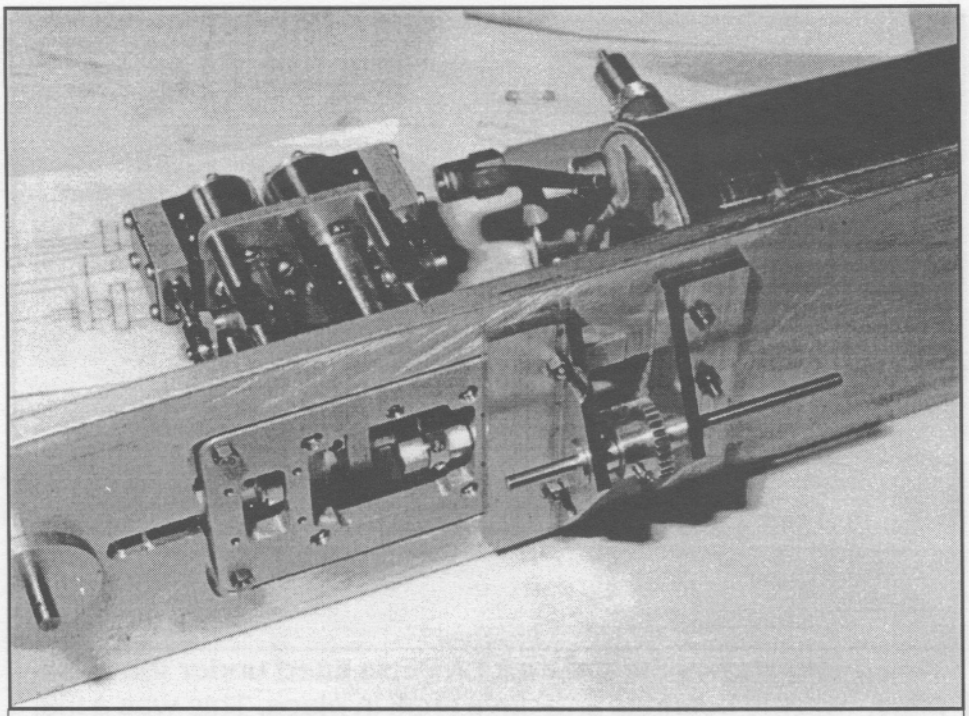
The Chassis Fittings

I had decided that the whole cabin would be removable for servicing and steaming up. The pictures of Climax engines I had seen (courtesy of Clark) showed what looked like a simple construction based on posts that fitted in metal pockets on the locomotive frame. Also the frames were obviously made from I or channel section steel, so I would have to do something to make my aluminum slab look acceptable. The solution was to fix hobby shop channel section brass to the sides of the baseplate and then use square section tube to make the sockets for the posts. The channel section was attached to the baseplate by 10 BA hex head screws, but I drilled the holes in the aluminum to clearance size and superglued them in. Then the spaces for the square section sockets were cut out using a piercing saw and the sockets also superglued in.

Couplers were made from brass flat and angles, and the front and rear pilots were also fabricated from channel and angle brass sections. These were also attached by 10BA screws, this time threaded properly into the baseplate as I wanted to be able to remove them later if required.



This photo shows how the Graham Twin fits up into the baseplate so that the bottom of the engine is flush with the underside of the baseplate.



View of the gearbox brackets installed after the Graham Twin was in place. The two rear mounting screws fix bot the engine and gearbox brackets in place to ensure proper alignment.

Also the rear tank is screwed to the baseplate via the channel sections and 10BA screws. Actually I lost count of the number of these small hex head screws that I used, but it's a lot!

Painting

At this point I had the engine disassembled and cleaned up and degreased. I painted the baseplate with its post sockets, pilots and couplers black. The rear tank assembly was also painted black. The smokebox and stack were silver gray; in fact, I used heat resistant paint here.

I did not use paint on the boiler cladding or trucks. I tried using a chemical brass black, and I must say that it holds promise. The boiler has the look of the old Russian Iron cladding, and the trucks have a nice weathered iron look. I will probably redo the boiler, as it needed a little better preparation before applying the chemical. But I like the look of this method.

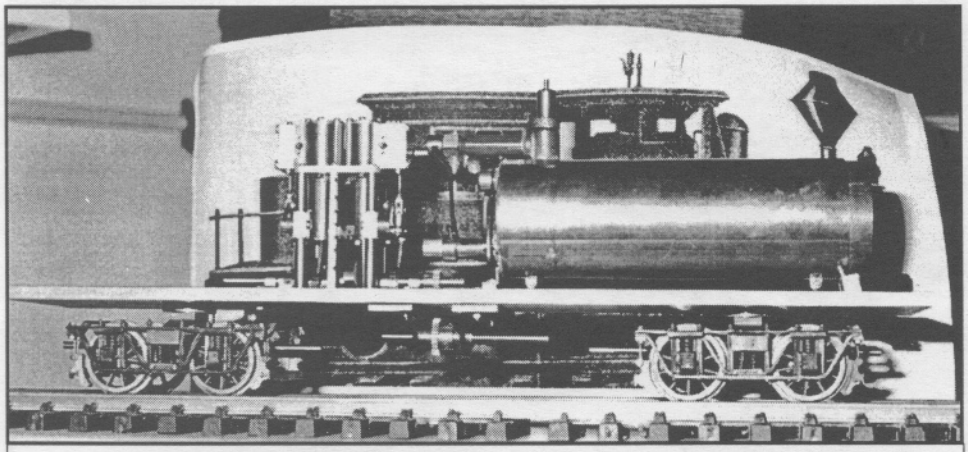
The Cabin

I made a trial cabin from model aircraft ply to get the general size and shape right. The idea was then to build a cabin using posts and planks like the prototype. But Diamondhead was approaching too quickly and so I used a hybrid technique. The outline of the cabin was cut from 1/16" ply and 1/4" square cedar posts were glued to the sides in the correct positions to drop into the post sockets on the frame. The sides were then attached to the roof of the first trial cabin. Then I sliced 1/4" wide planks of cedar from a sheet of 1/16" cedar veneer, cut them to fit between the posts and superglued them in place. The windows were cut from some celluloid and runners made from the same 1/16" thick veneer for the sliding windows at the side. I did not have time to make the handrails before leaving for Diamondhead, but they were bent up from brass rod and attached later.

The Diamondhead Experience

The first time the completed locomotive was going to be run was at Diamondhead! No time for a trial steam and adjustments. Well, the first steamup was in my room where I could check everything out without pressure and distractions. It was soon clear that I had a major problem in that every time I opened the throttle there would be mass of steam ejected from the stack, but nothing going to the engine. I soon diagnosed a leak in the superheater, the one element of the steam circuit that had not been tested before installation. A quick fix was accomplished by removing the superheater and using neoprene tubing to connect the throttle to the displacement lubricator. This was accomplished, and it steamed and ran OK in my room. (Note, when doing this make sure the room door is open to avoid setting off the smoke detector in the room!)

I was finally able to get some track time on Saturday afternoon, and took the **"Instant Climax"** out to Walt's track by the pool fueled and watered and ready to fire. At the appointed time I lit off the burner, soon had steam raised and ran the twin out of gear for a minute or two to warm it up and clear out any con-



The locomotive is now sitting on its trucks with the engine, gearbox and boiler mounted to check for clearances, etc. The blown up photocopy of the prototype is behind the engine.

densation. Then the moment of truth. The throttle was closed, the engine put in gear and the throttle opened again. Off she went, as smooth as you like, round the track.

Later on Clark Lord fired up his Steamlines Shay and we doubled headed for awhile, something we had planned on doing for some months. I did not get to pull any cars, but when Clark's Shay ran out of fuel the Climax was able to push it round the track dead engine! So I think a decent load should be no problem. As for the superheater, I probably won't bother to put it back as the engine ran sweetly without it, and there is not much distance in the steam line between the throttle and engine anyway.

So I actually made it. I completed a locomotive in time to run at DH '98. It wasn't quite the "instant" Climax I had first thought, but then, what project ever gets finished in the time we first estimated? It was fun though, and its success is due to three excellent products, Gail Graham's twin, which runs like a dream; the Roundhouse boiler, which is a proven steam generator; and Mel's VPC trucks, which are easy to make and produce very smooth-running units. The gearbox was fun to conceive and make and at least allows me to take credit for something on the engine! So if you need a "quick build" engine, enjoy logging style equipment and appreciate the unusual, why not try an "Instant Climax?" I guarantee you'll enjoy it!

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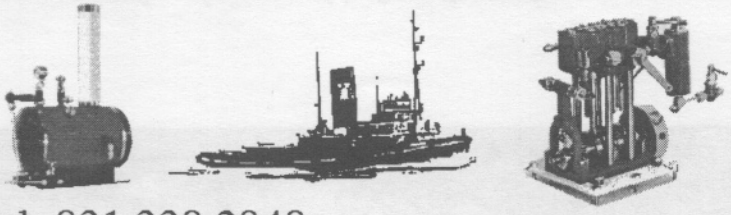

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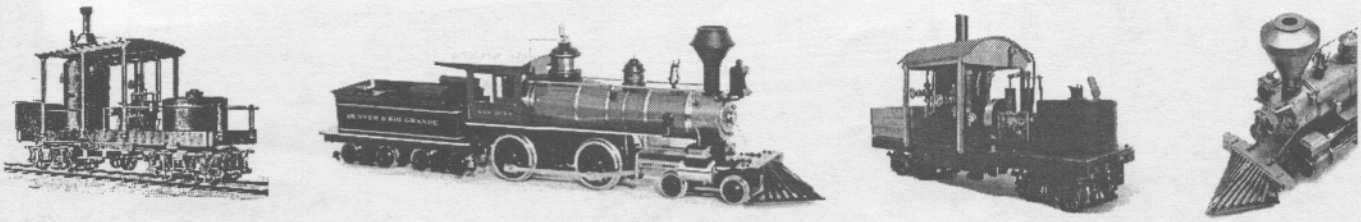
JOHN BURRELL years 25 years YORK STEAM ENGINEER

Keith included many more excellent and useful photos with this article, and so the article will continue as a pictorial in the next issue. - ed.

LEGEND

Steam Locomotives



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Steam on the Pond.....

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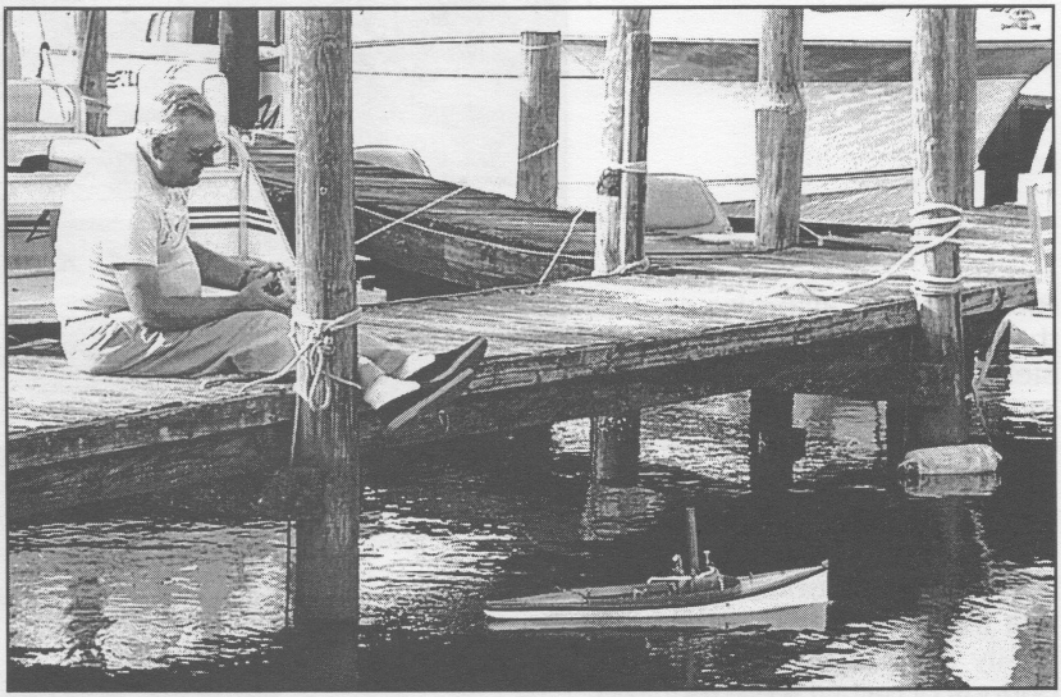
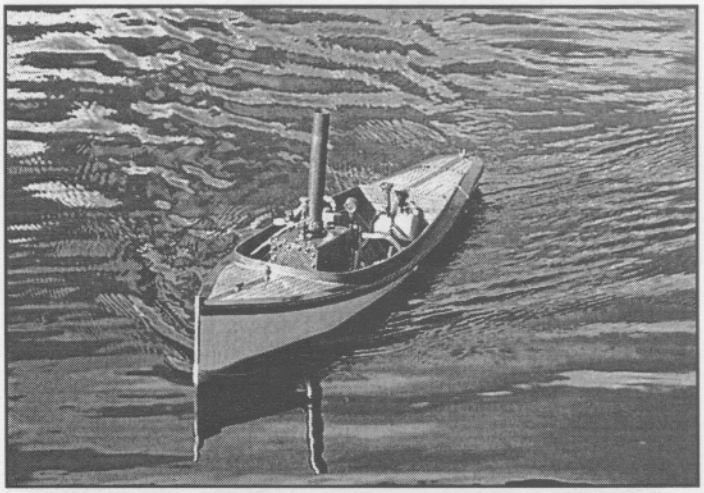
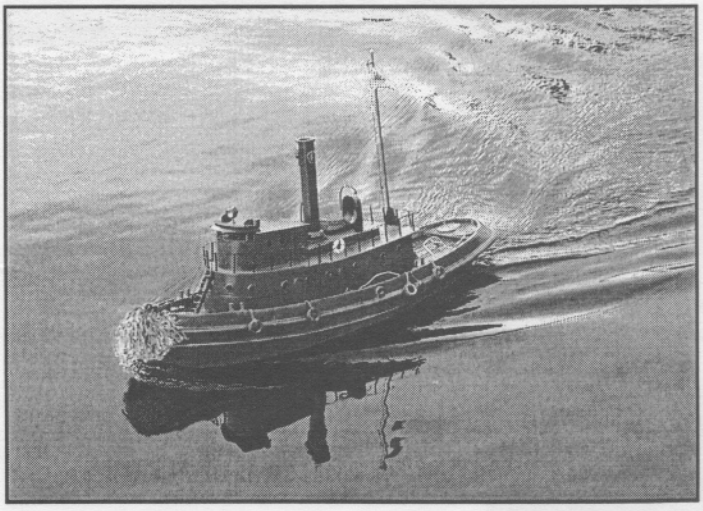
At what point does it stop being a model and become a full-sized boat? Dave Conroy's charming little passenger hauling steamer is either the biggest model I've seen, or the smallest steamboat. Shown here returning from a ride on the Caloosahatchee River in Fort Myers, Florida are (l to r) Dave Conroy, Fran Osterhoudt and Al Krakow.

digital photo by Ron Brown

It was a beautiful day at Coastal Marine on the Caloosahatchee River in Fort Myers, Florida. Tom & Lani Poynter hosted a small gathering of steamboaters at the marina, and we all had a fine time socializing, sailing our models and riding in Dave Conroy's passenger-hauling steamboat. Shown here at left is Ken Parkinson with one of his scratchbuilt steamers.The photos below show Dave Conroy's scratchbuilt steamer (top) and Ken Parkinson's scratchbuilt tug.
digital photos by Ron Brown







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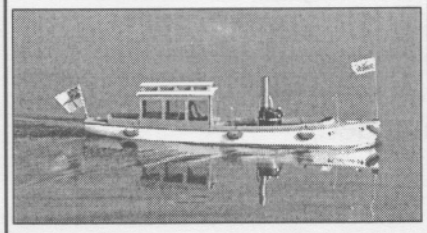

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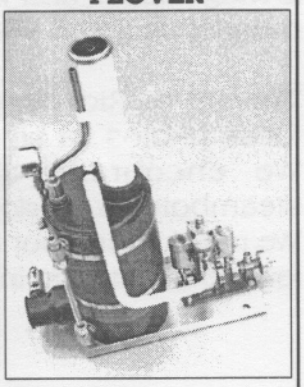

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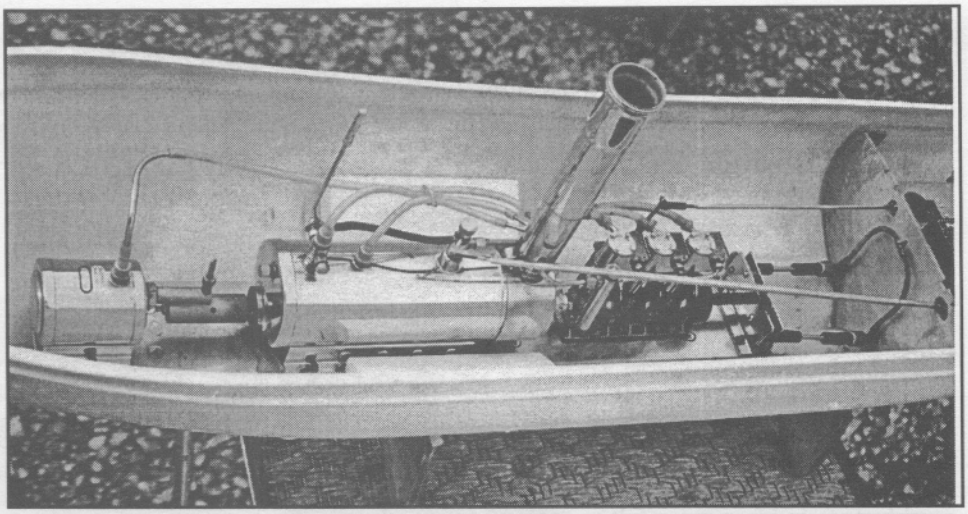
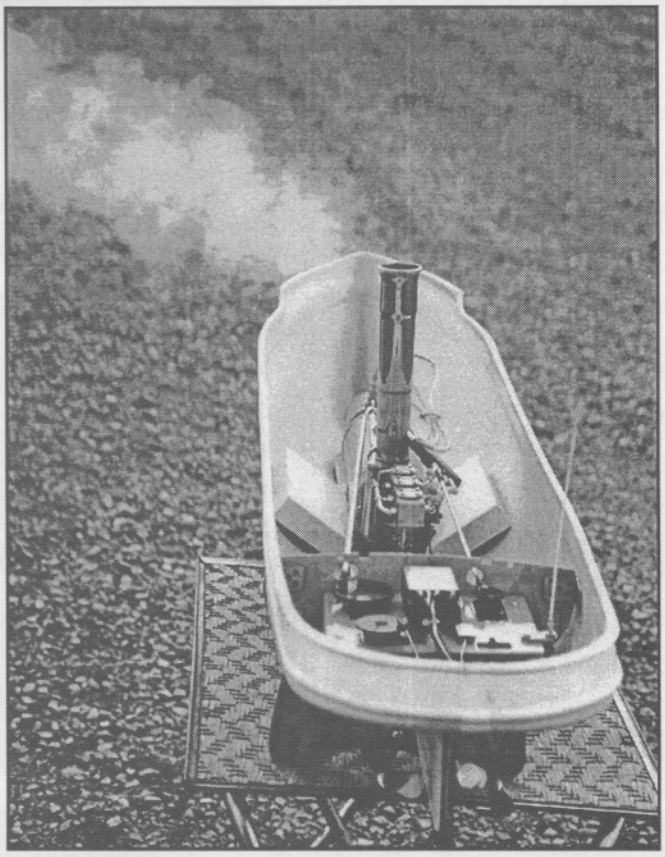
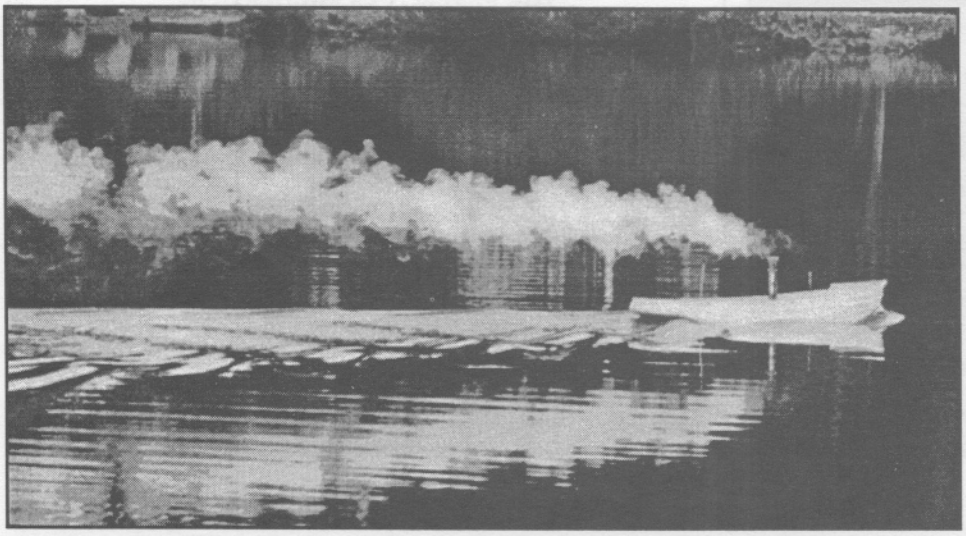


Rick Schell (California) sent in these photos of his project steamboat, which is based on a Saito Tug hull and Saito three cylinder steam engine. The boat has twin screws (contra-rotating) and plugs along quite well. Rick tells us that he's going to finish the boat as an open launch so that the workings can be more easily seen and admited. Ten pounds of ballast were required, and now the boat appears very realistic on the pond, with a good wake, and is very stable even in rough waters. The steam plume is magnificent, and would make most of us green with envy!

Thanks to Rick for sending in these photos for all of to enjoy. We encourage all of you steamboaters to do the same. We need your input to keep this feature afloat (pun intended)!





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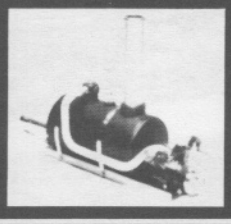

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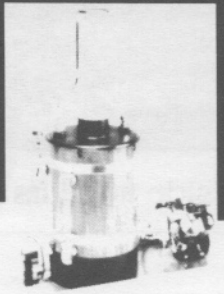

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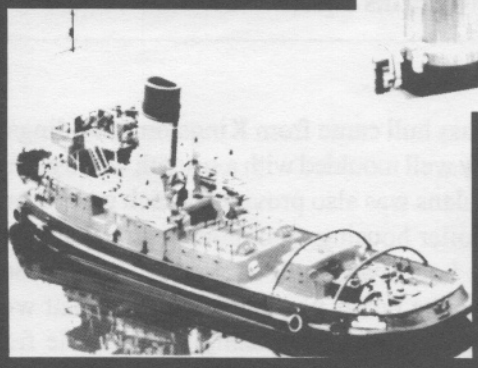

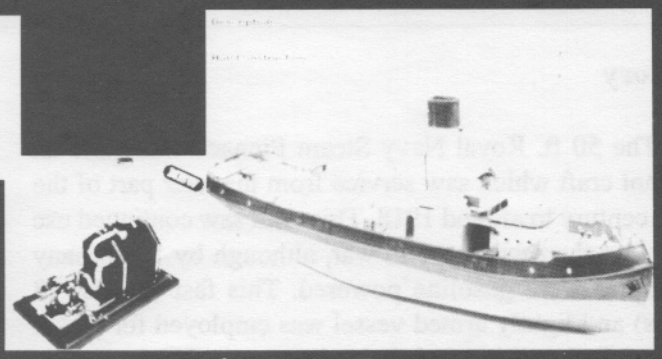

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A Steam Powered Royal Navy Pinnace

Text and Photos by Steve Siegel

The author's completed model at pondside in all its splendor.

History

The 50 ft. Royal Navy Steam Pinnace was quite an elegant craft which saw service from the later part of the 19th century to around 1918. This craft saw continued use well into the second world war, although by 1920 many examples were gasoline powered. This fast (almost 18 knots) and lightly armed vessel was employed for picket duty at Gallipoli in 1915, helped suppress the slave trade in the Indian Ocean, and assisted in harbor patrol and support for landing parties. They usually were equipped with either a 3 pound quick firing deck gun or a Maxim machine gun. Sans gun, the craft served as an Admiral's barge or pinnace and must have presented a striking appearance indeed with all its polished brasswork and varnished wood. The model described here is based on the 1909 Simpson Strickland and Co. type 25 craft, which was standardized to 56 ft. LOA, and is in 1/15 scale.

Construction Details

The fiberglass hull came from Kingston Mouldings in the UK. It is very well moulded with a smooth white gelcoat finish. A set of plans was also provided which gave details regarding the boiler housing, gun mount, and various fittings. The deck house was built using mahogany veneer over 1/8" balsa. The boiler housing and gun mount were fabricated from fiberglass cloth using molds made from carved blocks of balsa. The ventilators were made from plastic Easter eggs and brass tubing, and the funnel is a length of 1.1/4" thin wall brass tubing with a flared top section made from a brass vase and silver-soldered on. The portholes are commercially available from sources like Model Expo.

Photo (1) shows some details of the boiler housing and various fittings. The deck was 1/16 plywood covered with 1/4" wide mahogany planks. The rudder was fabricated from thin brass sheet and is controlled by a servo mounted in the stern. I was not able to find a detailed drawing of the type of gun this craft carried, so I improvised

with a scratchbuilt version made from parts of various plastic military models.

The Graham TVR1A

The engine powering this model is the Graham Industries TVR1A twin cylinder steam engine, which was built from a kit. It has a bore of 1/2" and a stroke of 5/8". The engine went together extremely well; all parts are beautifully machined and the instructions and photographs in the manual are excellent. Break-in was done by running on 15 psi of compressed air for about 30 minutes in each direction. For steam operation, a Cheddar displacement lubricator was silver-soldered to the steam input pipe of the engine. In addition, the reversing rod was extended and connected to a bellcrank assembly for servo control of forward and reverse, as is illustrated in photo (2). A flywheel was fabricated from 7/8" diameter brass rod about 3/8" thick and attached to the engine's output shaft to assist in smoother slow-speed running.

Boiler and Steam Valve

The reversing rod on the Graham is not intended to function as a speed control, and so a steam valve was fabricated to provide a throttle control. The valve body was made from 1/2" diameter brass rod stock. A 5/16" diameter brass disk with a slot milled across its edge turns inside the valve body and regulates the steam output from full stop to full power by a rotation of 45 degrees. This valve is controlled by a servo. Photo (3) illustrates the components of the steam valve, and photo (4) shows the valve in position between the boiler and lubricator with the servo control rod visible.

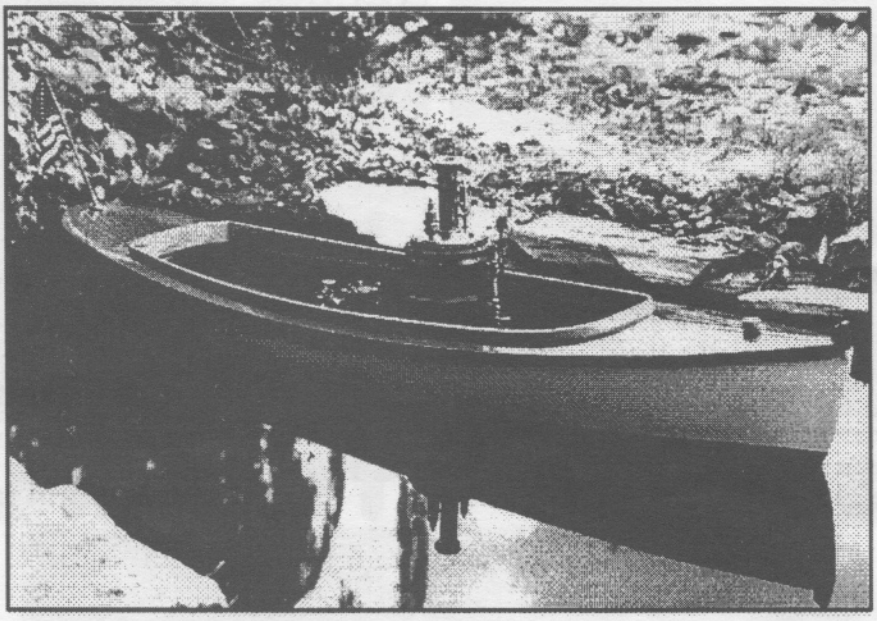
The boiler is a Cheddar Puffin horizontal type with mahogany lagging and fired by butane fuel. The Graham runs very well on 20 psi of pressure driving a 2 1/2" diameter three-blade brass propeller of 2.2" pitch.

I am very pleased with the performance of this model. One thing to keep in mind when running a steam engine in an enclosed hull is to provide lots of ventilation: it gets really hot in there! I cut many slots in the top of the boiler housing and the model is always run with all the hatches open. I have not had any overheating problems so far. If anyone is interested in further details regarding construction, operation, or vendor sources, I can be contacted at the address below.

Steve Siegel
8118 Peach Lane
Fogelsville, PA
19051

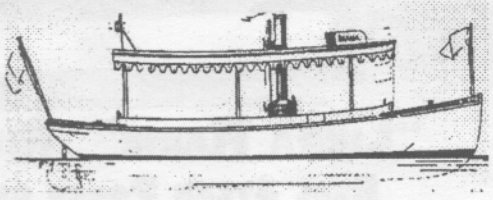
e-mail:
stefans@enter.net

Diana Steam Launch



Famed marine architect Weston Farmer designed this graceful and beautiful steamboat in the style of the Gay '90s. *Diana* is impecably modelled in fiberglass-reinforced polyester resin. The hull is gloss white, and the deck is Boston Buff. The planking, boot-top and deck seams are clearly incised. Supplied are hull, deck, complete drawings and material for the shaft alley and rudder tube. We guarantee its safe delivery to your home. **$276.00 plus $24.00 shipping and handling.**

	Model	Full Size
L.O.A.	50"	25'-0"
Beam	13"	6' 6"
Draft	4"	2'-0"
Displacement	19.4 lbs.	4,188 lbs.



CANOPY

Diana's canopy has been designed by Tom Lexow, whose radio-controlled *Diana* was featured on the cover of *Live Steam* magazine in 1981. The canopy is also Boston Buff colored and makes a lovely addition to the overall looks of your launch. **$85.00 plus $12.00 shipping and handling.**

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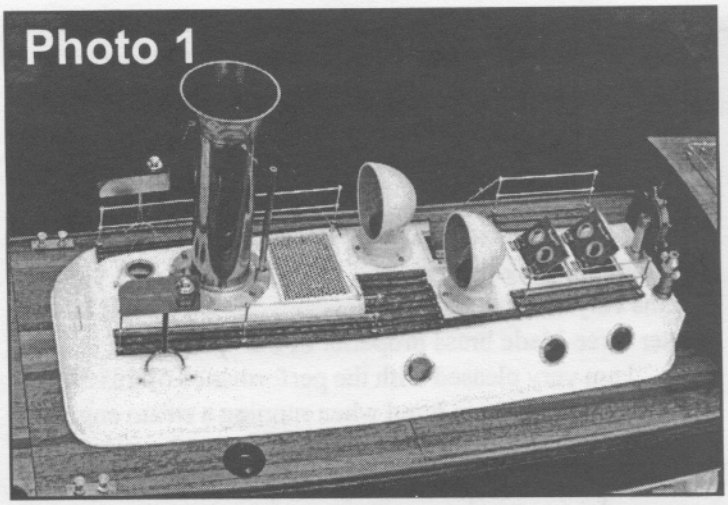
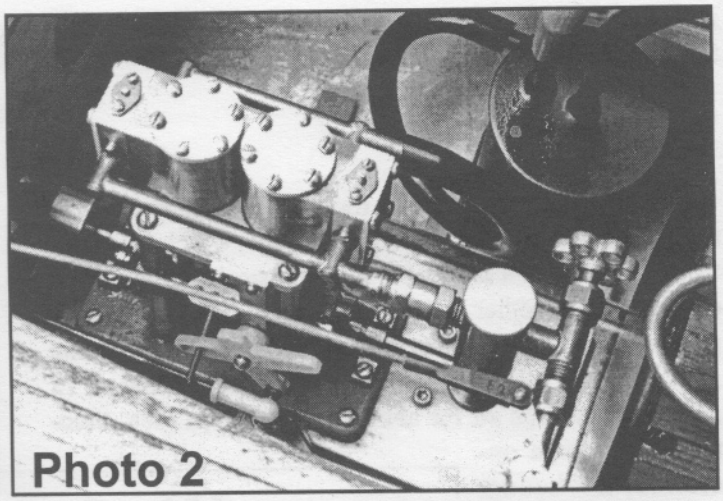
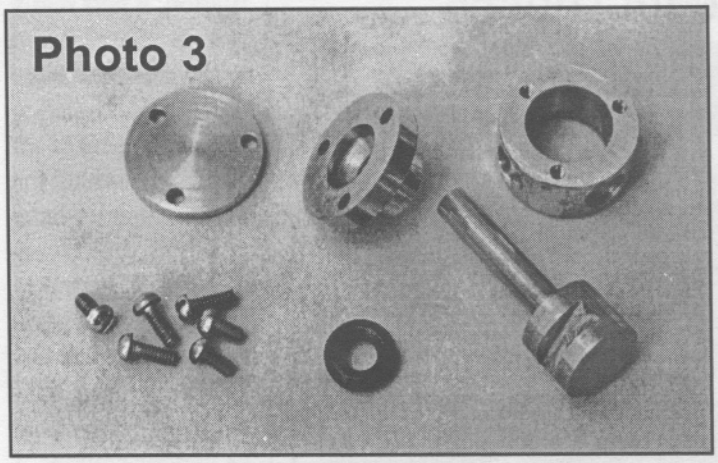
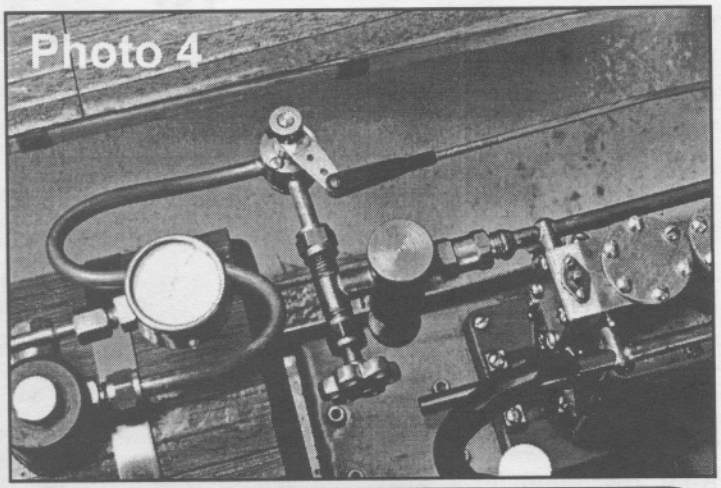
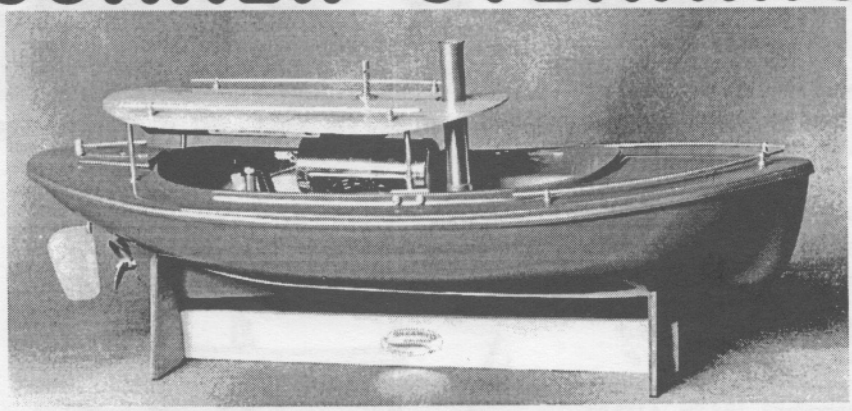








SUMMER STEAMING



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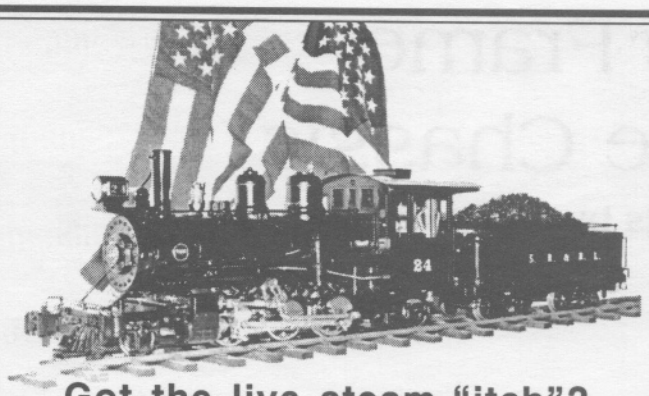

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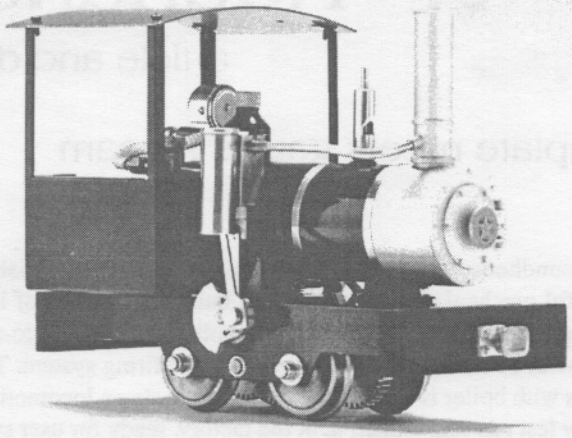

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An Inside Frame Roundhouse Chassis

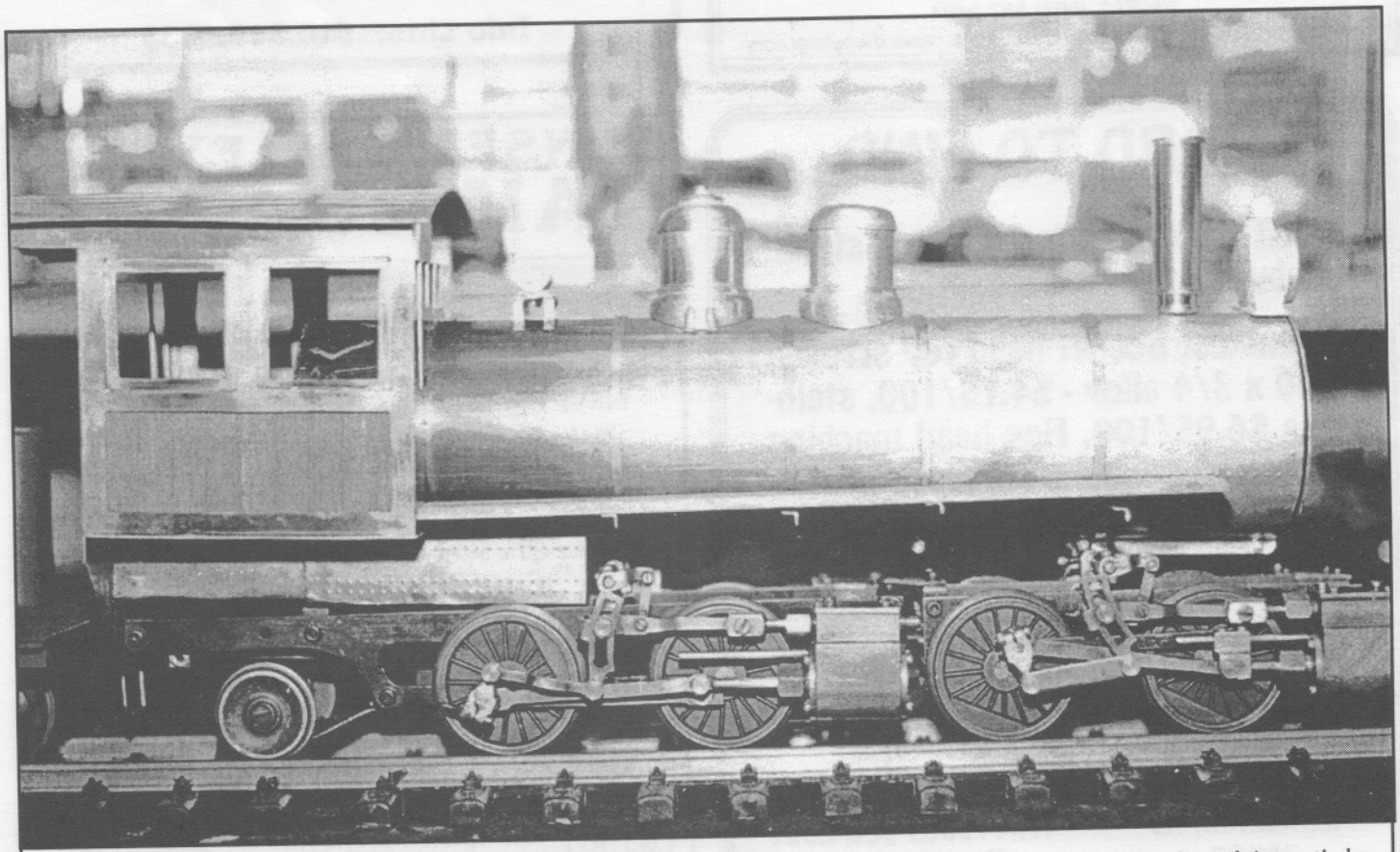
article and drawings by Les Knoll

Tinplate meets gauge 1 steam

Roundhouse 0-4-0 and 0-6-0 chassis are sturdy, reliable, powerful mechanisms upon which to build many types of live steam projects. They are available in both kit and ready-to-run form, with or without a complete boiler and firing system. The chassis with boiler is a complete ready to run steam locomotive, already test run and broken in at the factory, ready for user supplied cab and other details.

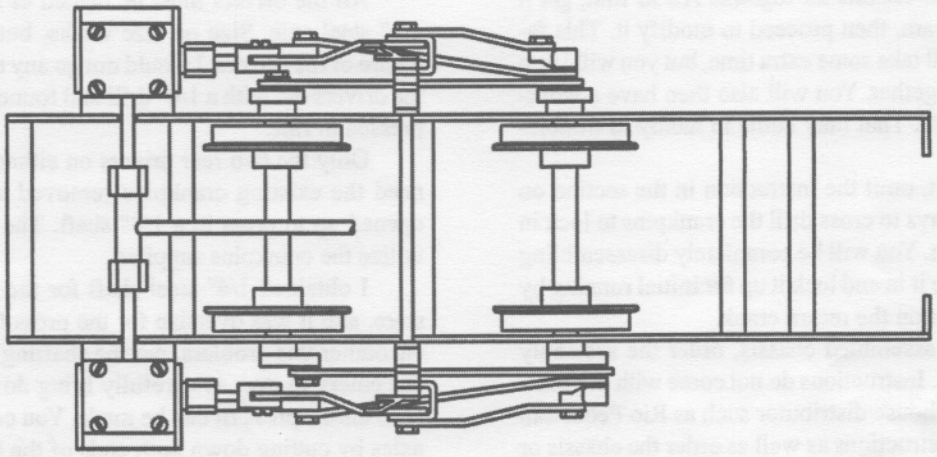
These chassis are available in outside frame configuration only, but any modeler with some basic metal working experience and a little bit of daring can convert one of these chassis to an inside frame unit, opening up more modeling possibilities. No machine tools are required, just a high speed rotary tool, a good sturdy drill press, and the usual hand tools. Because of this, some operations may appear crude, but they do work if done carefully.

The key to this conversion lies in the drivers. The drivers I used on this project are Lionel #8306-611. These may be obtained from suppliers of "O" tinplate train repair parts. My source was America's Best Hobby Shop 136 East Army Trail Road, Bloomingdale, IL 60139. From this source, they are $6.00 apiece. It is advisable to buy a couple of spares, as an error in pressing them onto the axles can crack the drivers. Also order the crankpin screws that go with these drivers, #773-45 for 75 cents apiece. They are used on all but the two drivers connected to the main rods. Those two drivers will be reworked to accept 1/8" steel rod crankpins similar to those used on the original chassis.

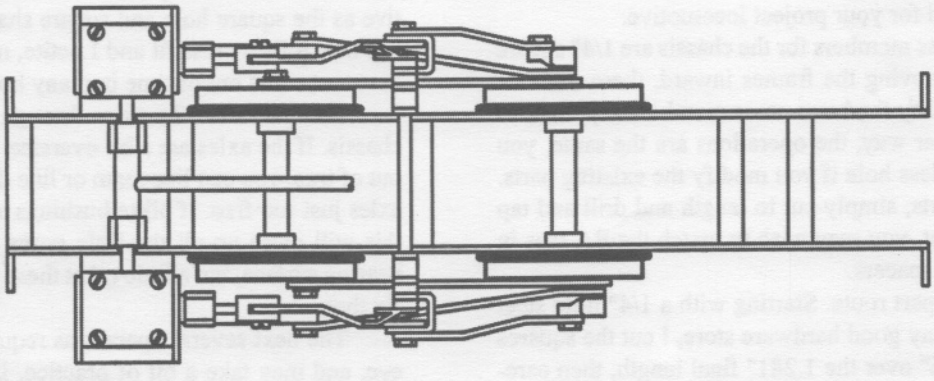


2-4-4-2 articulated under construction, using techniques and materials described in this article. The author had this loco completed and running at DH '99, and it looks and runs very well indeed.

COMPARISON OF OUTSIDE AND INSIDE FRAME CHASSIS



OUTSDE FRAME CHASSIS AS SUPPLIED BY ROUNDHOUSE



INSIDE FRAME CHASSIS AS MODIFIED

The first reaction by some people would be that the spokes are blind, as is typical with tinplate drivers. I feel this disadvantage is outweighed by the fact that they are inexpensive, available, and the flanges look right in 1:20.3 scale. Most importantly, the crankpin hole is spaced right for Roundhouse cylinders! This means that when the existing crankpin is removed and replaced with 1/8" steel rod, the Walschaerts valve gear will bolt right up and work the same as it did on the original inside frame chassis. Sometimes you just get lucky.

The chassis must be built up from bare side frames, so it may be advisable to purchase the kits rather than the assembled chassis. To get acquainted with how the parts go together, it might be a good idea to put the chassis kit together AS IS first, get it running under air or steam, then proceed to modify it. This familiarization process will take some extra time, but you will learn how everything goes together. You will also then have a working chassis to begin with. That may come in handy in troubleshooting later.

If you build the kit, omit the instruction in the section on valve gear timing that says to cross drill the crankpins to lock in the return crank position. You will be completely disassembling the gear anyway, so time it in and lock it up for initial running by tightening up the screws on the return crank.

If you opt for an assembled chassis, order the assembly instructions from the kit. Instructions do not come with the completed chassis. A Roundhouse distributor such as Rio Pecos can supply you with such instructions as well as order the chassis or kits for you.

The structure of the chassis is elegantly simple in its design, and that makes the conversion easy. Start with bare side frames. You will be reversing the two frames left hand for right hand. This is done so that the long ends of the top hat bushings for the axles point inward, giving maximum spacing between the side frames. Note that the distance between side frames is somewhat reduced with this conversion. This is a great time to take care of any frame modifications, cutouts, shortening, etc. you may have in mind for your project locomotive.

Note that the cross members for the chassis are 1/4" square brass. Since we are moving the frames inward, these must be shortened. Either modify the brass cross members supplied, or make new parts. Either way, the operations are the same, you just drill and tap one less hole if you modify the existing parts. To modify the old parts, simply cut to length and drill and tap one end. If you do that, you may wish to match the BA taps in the cross members or spacers.

I chose the new part route. Starting with a 1/4" mild steel square obtainable at any good hardware store, I cut the squares to a length about 1/16" over the 1.281" final length, then carefully filed the edges square. With the ends square, drill each end in the center for a 4-40 tap about 5/16", and tap 4-40 1/4" deep. Make as many of these as Roundhouse supplied with the chassis, or you may wish to add more cross members to mount other parts on your loco project.

To reassemble the chassis in its new form, first exchange the side frames left hand for right hand. This means that the tabs at the front and rear will now face outward. If this is a problem, Either bend the tabs the opposite direction, or cut them off if not needed in your final design.

Assemble the shorter cross members to the side frames using 4-40 x 1/4" hex head cap screws. I used screws made by Du-Bro, #560. These are sold in hobby shops mainly for use in radio controlled cars and airplanes. There are a lot of Du-Bro hardware parts that can have crossover use in our hobby. Check these out for yourself.

Use the original 1/4" axles passing through the axle bushings to line up the side frames before you tighten things up. If the axles bind a bit, loosen the screws holding the cross pieces in and line up. It is advisable to do this lineup with only the two end cross members and perhaps a middle one in place. When all is lined up and tightened down, put in the others.

All the drivers must be drilled or reamed to press onto a 1/4" steel axle. Size on size works, but because of the fragile nature of the drivers, I would not go any tighter. I actually drilled the drivers out with a 1/4" drill and found that the shafting I used pressed in fine.

Only the two rear drivers on either 0-4-0 or 0-6-0 chassis need the existing crankpins removed and the crankpin holes opened up to press in a 1/8" shaft. The remaining drivers will utilize the crankpins supplied.

I obtained 1/4" steel shaft for the axles from a hardware store, and it was oversize for the press fit to the drivers. If you encounter this problem, put the shafting in your drill press, and use emery to ever so carefully bring down the diameter on the ends until a press fit can be made. You could also make the new axles by cutting down both ends of the Roundhouse axles supplied.

The 1/8" shaft for the crankpin must be a non-hardened steel round. The shafting found in hobby shops is essentially music wire, and cannot be cross drilled easily. You will have to do this cross drilling later after the valve gear is timed in.

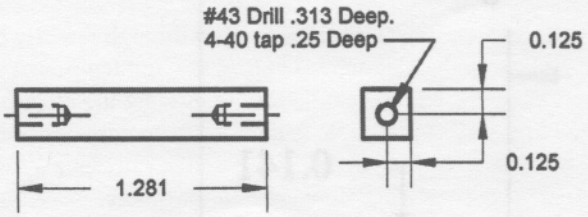
Press the crankpins in both rear drivers, filling the crankpin hole with Loctite before pressing. Press one driver on each axle, also using Loctite before pressing. This is the only way the drivers are 'locked in' position on their axles. This is not as positive as the square hole and square shaft that Roundhouse uses, but with a firm press fit and Loctite, my drivers and valve gear have not come out of time in many hours of operation.

Test assemble the axles through the axle bushings in the chassis. If the axles are a bit oversize, or the frame still slightly out of true, you can line ream or line drill the bushings until the axles just run free. If oilite bushings are used on these chassis, this will close up all the little pores that feed graphite to the bearing surface, but a little oil at these points every so often will fix that.

The next several operations require a little bit of an eagle eye, and may take a bit of practice. Insert the rear driver/axle assembly, the one with the 1/8" pressed crankpins, onto the chassis with the driver on the right hand side. Place the left hand driver on the axle, lightly tapping or pressing it on. You want it on far enough to hold the driver on the axle, but still loose enough to still be able to turn the driver. Carefully line up the crankpins so that the right hand crankpin, viewed from the right hand side, is at the three-o-clock position, and the left hand crankpin, viewed from the left hand side, is at the twelve-o-clock position. The right hand crank leads the left hand side by 90 degrees in American locomotive building practice. When you get this as close as

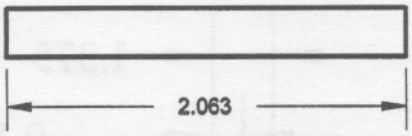
DETAIL PARTS AND FRAME-ROUNDHOUSE INSIDE FRAME CHASSIS

CHASSIS SPACERS



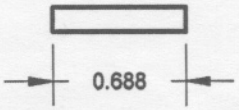
MATERIAL .250 x .250 STEEL OR BRASS
MAKE NEW OR MODIFY EXISTING

AXLE



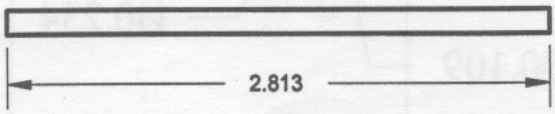
MATERIAL .250 DIA STEEL ROUND
MAKE NEW OR MODIFY EXISTING

CRANKPIN



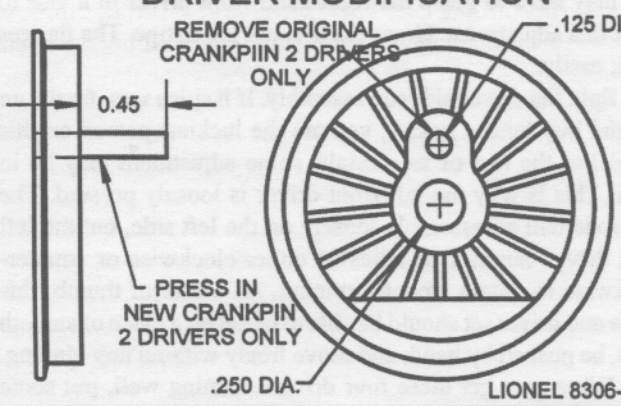
MATERIAL .125 DIA UNHARDENED STEEL

WEIGHT SHAFT

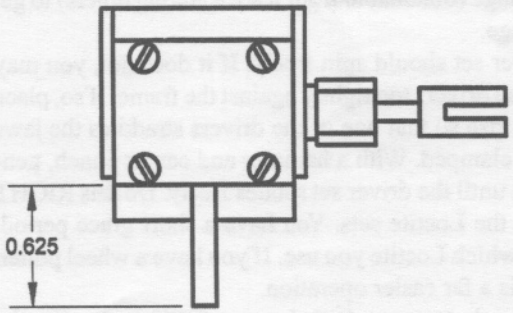


MATERIAL .125 DIA UNHARDENED STEEL

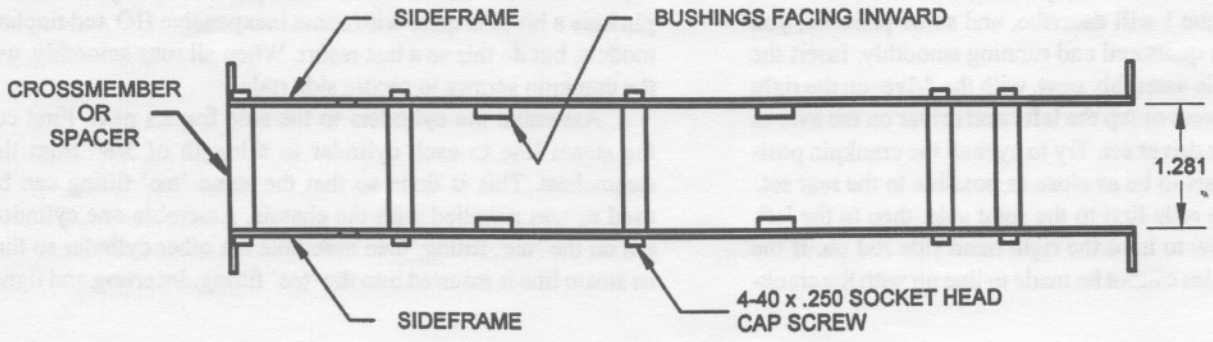
DRIVER MODIFICATION



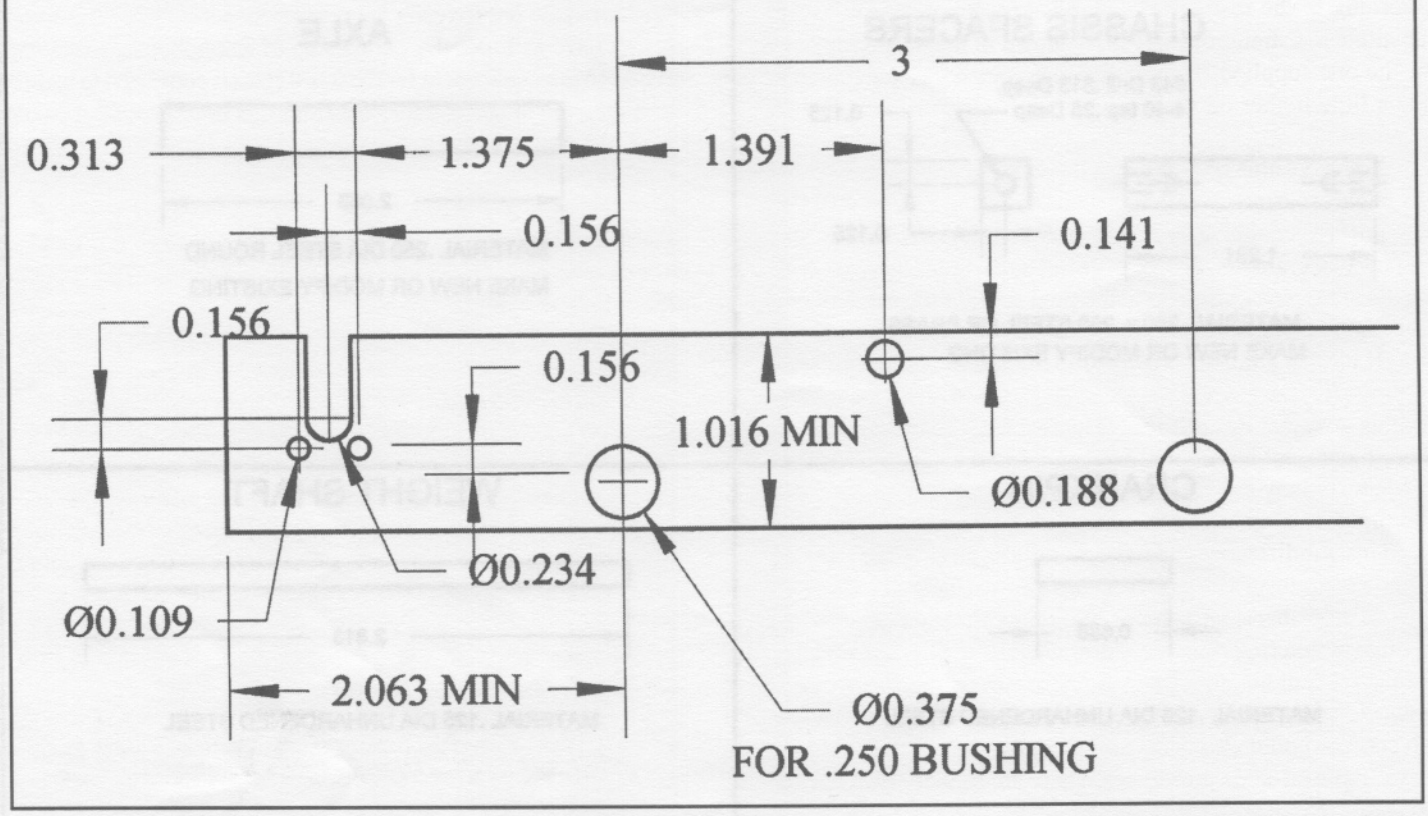
MODIFICATION OF STEAM LINE FROM STEAM CHEST



MODIFIED FRAME READY FOR ASSEMBLY OF MECHANISM (0-4-0 SHOWN, HALF SIZE)



BASIC REQUIREMENTS FOR 0-4-0 FREELANCE CHASSIS



you can possibly get, using whatever gauging process is available to you (I eyeball it) put some Loctite in the left hand driver axle hole, and press or tap the driver onto the axle, using a track/wheel gauge (obtainable from Kadee among others) to get the proper gauge.

This driver set should spin freely. If it does not, you may have pressed the drivers too tightly against the frame. If so, place the frame in a vise so that one of the drivers straddles the jaws without being clamped. With a hammer and center punch, gently tap the axle until the driver set rotates freely. Do this RIGHT AWAY before the Loctite sets. You have a short grace period, depending on which Loctite you use. If you have a wheel puller, this of course is a far easier operation.

The side rods are now drilled out to 9/64" to fit onto the crankpins originally used on the Lionel drivers. Drill out all the side rod holes except the rear ones. The rear holes fit over the 1/8" crankpins driven by the main rods, and are already the right size, or at worst may have to be opened up just a bit.

The next part is one that many locomotive builders dread, but with the technique I will describe, and some patience, you can get your drivers quartered and running smoothly. Insert the front most driver/axle assembly next, with the driver on the right hand side. Lightly press or tap the left hand driver on the axle as was done on the rear driver set. Try to eyeball the crankpin positions on this driver set to be as close as possible to the rear set.

Attach the side rods first to the right side, then to the left. Use a crankpin screw to hold the right hand side rod on. If the left hand side rod holes cannot be made to line up with the crankpins, turn the left hand front driver until pins and holes line up. You may have to grasp the right hand front driver in a vise to make this adjustment. Grasp the tire, not the flange. The flanges break easily.

Spin the driver/side rod assembly. If it spins very freely, go out and buy lottery tickets, you are the luckiest person on this earth! For the rest of us mortals, some adjustment may be in order. This is why the left front driver is loosely pressed. The side rods will all assemble loosely on the left side, but the left front driver can still be adjusted either clockwise or counterclockwise to obtain smooth running. As a rule of thumb, this frame and driver set should be able to be set on a piece of smooth glass, be pushed by hand, and move freely without any binding.

When you get these four drivers running well, put some Loctite into the axle hole of the left front driver and press or tap it in the rest of the way, checking for wheel gauge as you go.

Try this chassis on a track. It should now roll effortlessly. If you have an 0-6-0, repeat the process with the center driver set. If push comes to shove with that set, you can enlarge the crankpin hole a bit as is done with some inexpensive HO and tinplate models, but do this as a last resort. When all runs smoothly, use the crankpin screws to secure side rods.

Assemble the cylinders to the side frames next. First cut the steam line to each cylinder to a length of 5/8" from the steamchest. This is done so that the same 'tee' fitting can be used as was supplied with the chassis. Assemble one cylinder, put on the 'tee' fitting, then assemble the other cylinder so that its steam line is inserted into the 'tee' fitting. Inserting and tight-

ening the second cylinder's mounting screws is a very tight operation.

Assemble the rest of the valve gear and time in the chassis according to the instructions supplied by Roundhouse, except substitute the straight weigh shaft shown in the detail drawings for the one supplied. This means that your boiler may have to ride a little higher on the chassis than if a curved weigh shaft was used.

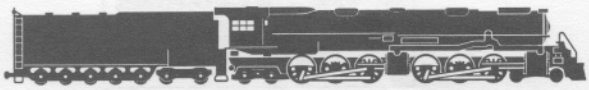
You have altered nothing in the valve gear geometry doing this conversion, so timing in this chassis should be no different than if it was unaltered. Since unhardened steel shaft is used for the new rear crankpins, you should not have difficulty cross drilling the crankpins as is done in the final steps of the valve timing process.

If all has gone according to plan, you now have a nicely running INSIDE frame Roundhouse chassis with all the quality running gear that Roundhouse is known for. The chassis may be altered to accept lead or trailing trucks, shortened, or modified in whatever way the your project requires, as long as the basic running gear is not altered.

This modification opens up endless possibilities for an American prototype locomotive with a British heart. If you don't want to stop there, how about building your own side frames and maybe altering the wheel arrangements? Starting with the 0-6-0, you could build a frame for a Consolidation 2-8-0. If you have wide radius curves, you could leave all the flanges on the drivers. You could also make the center two sets of flanges blind as was done on some prototypes. There are Lionel drivers available similar to the ones used here that are blind, and drivers with white tires, all with the same diameter and crankpin throw. You could use the existing valve gear and make an additional two crankpin side rod to reach the rear driver set.

I have included, by permission of Roundhouse, a drawing based on their side frame for the 0-4-0 chassis converted to inches, and showing the essential dimensions that must be held. I would also like to thank Roger Loxley for all his help in this conversion project.

Note that the height of the frame has been reduced so that the weigh shaft support or 'penguin' as the instructions call it sits on top of the side frame instead of in a recess. The bore for the axle bushings has also been changed to accept more readily available 1/4" 'top hat' bushings. These frames essentially function as 'hole holders' for the cylinders, valve gear, and axles. Anything else you do is fair game, including location of cross members. Just remember to place two near the cylinders at the front, and at least one between drivers. I have gone as far as to design and build two 0-4-0 chassis into the lower works for a Little River 2-4-4-2 for narrow gauge. This involved shortening the wheelbase and making new side rods, main rods, and return rods. That, as they say at the end of Conan movies, is a another story.



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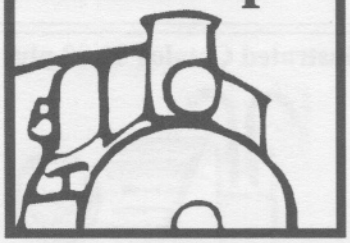

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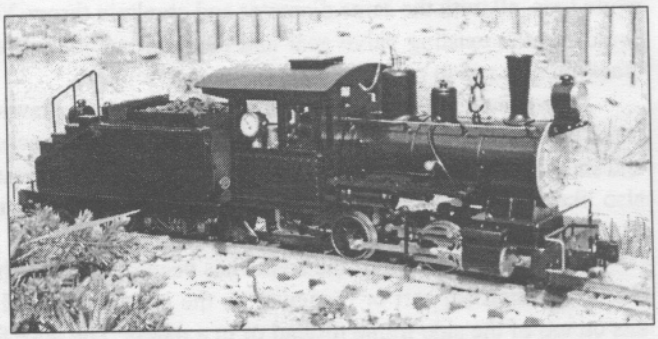

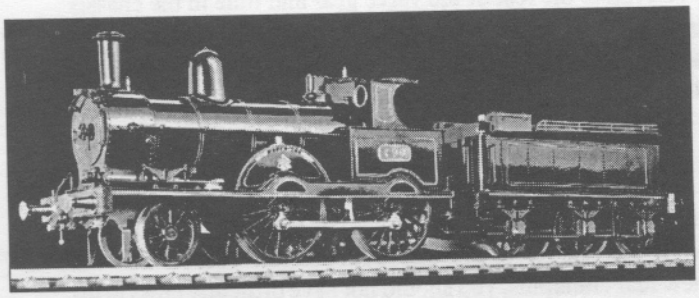

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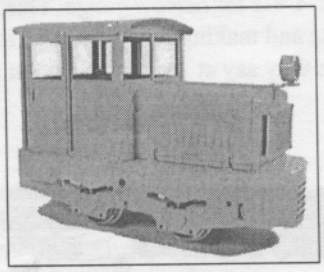

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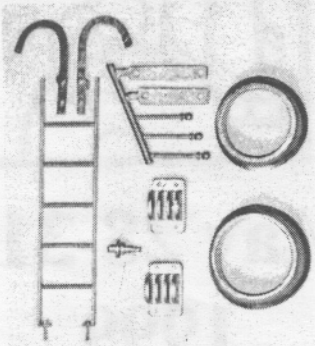

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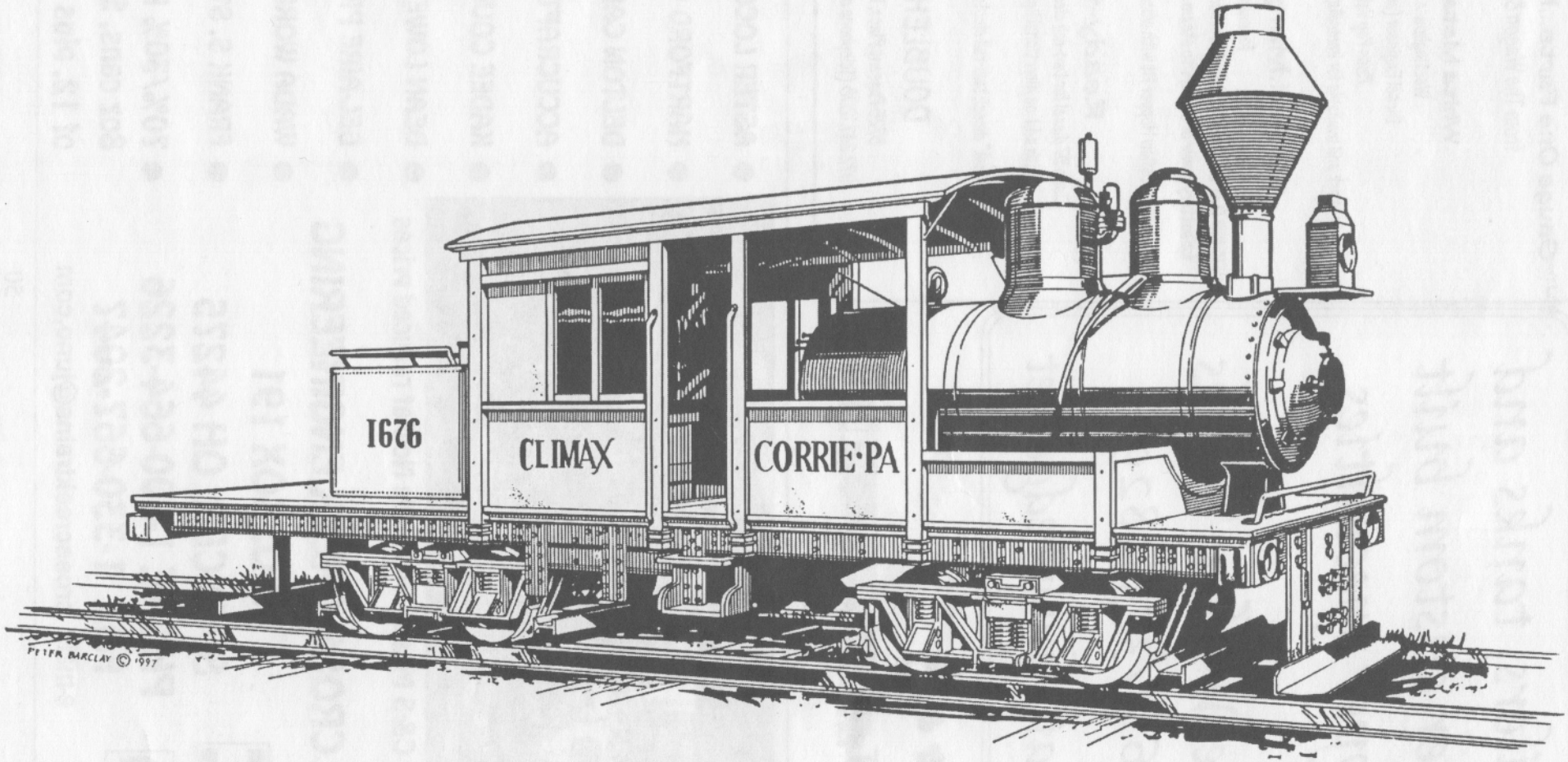

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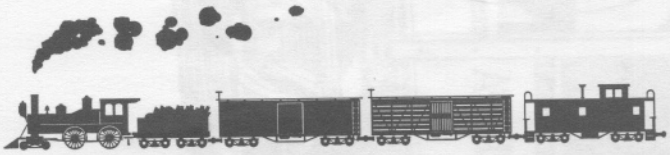

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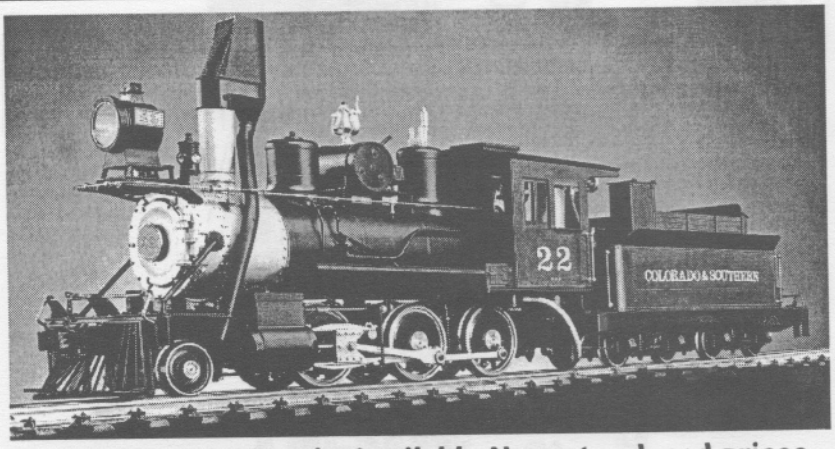

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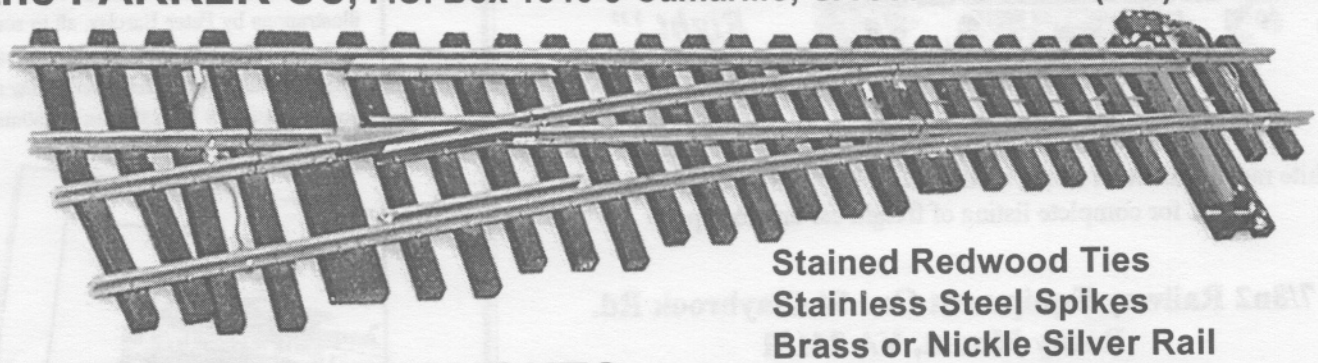

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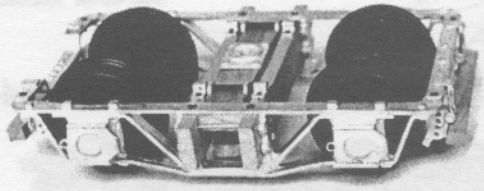

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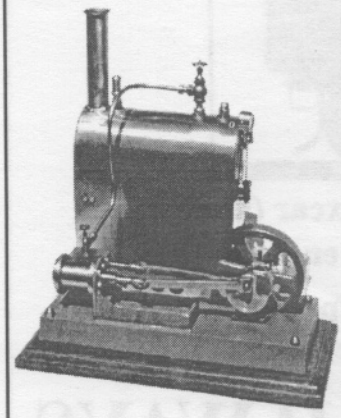

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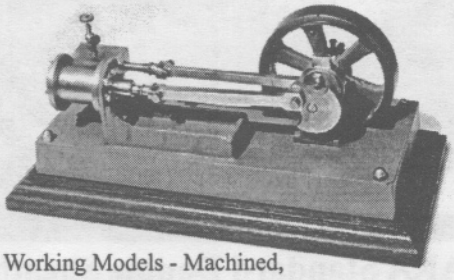

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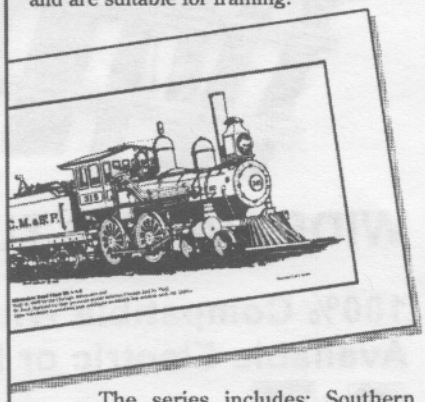

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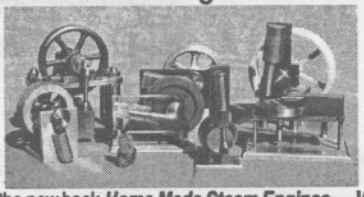

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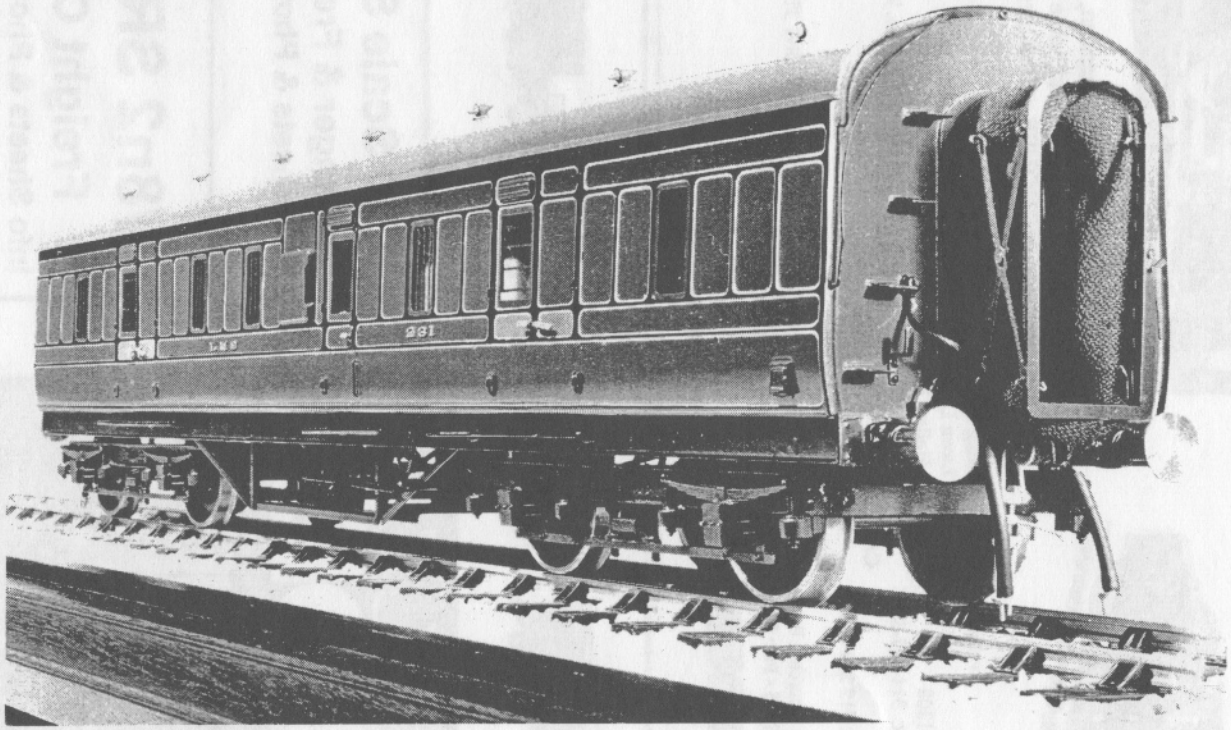

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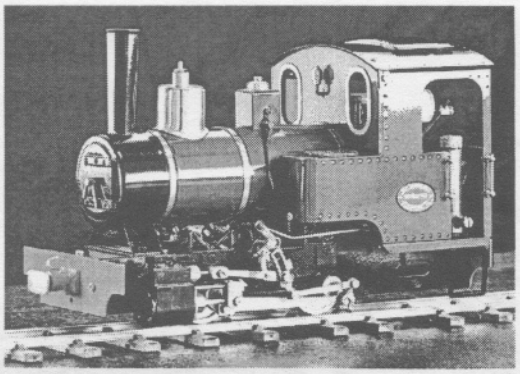

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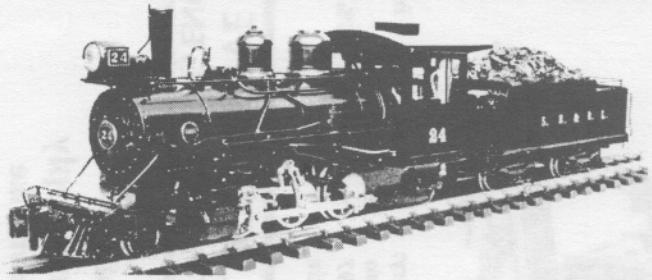

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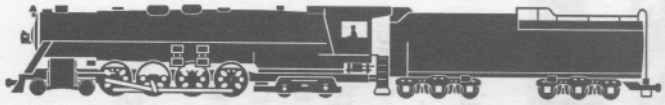

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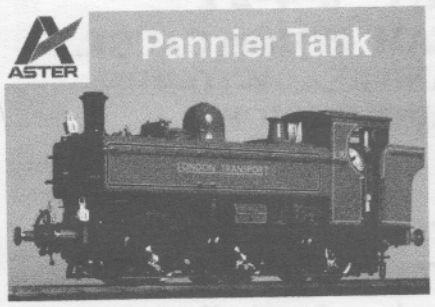

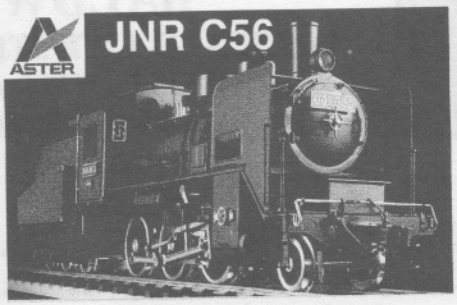

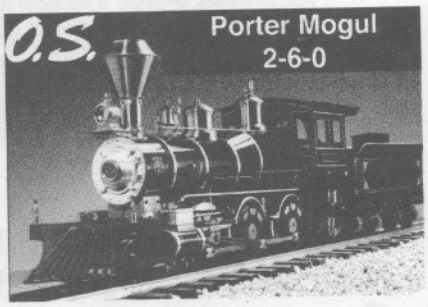

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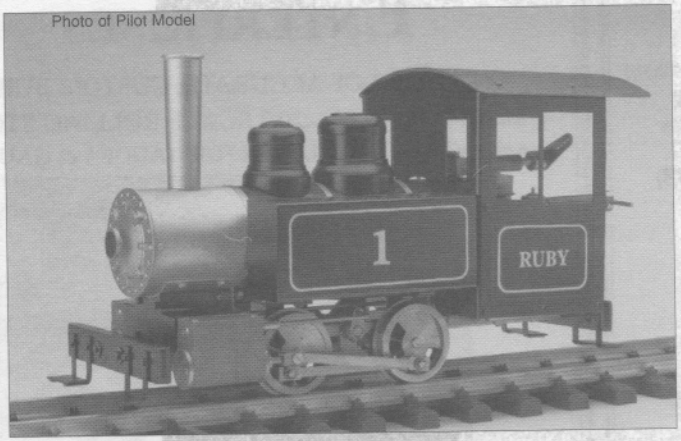

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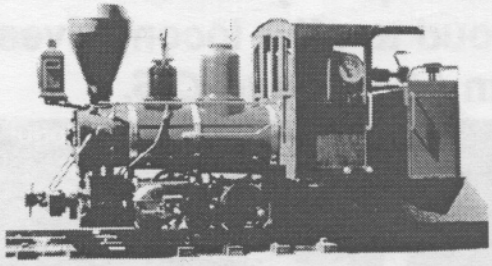

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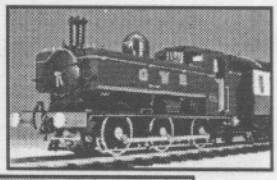

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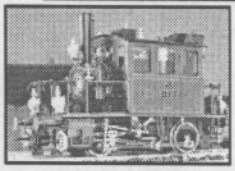

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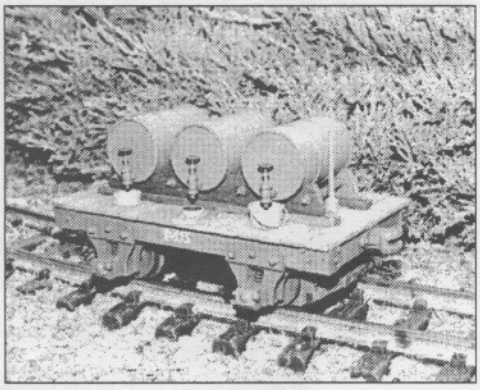

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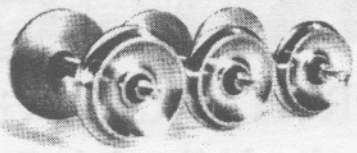

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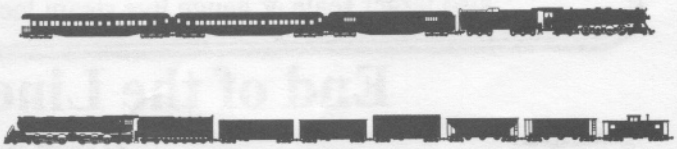

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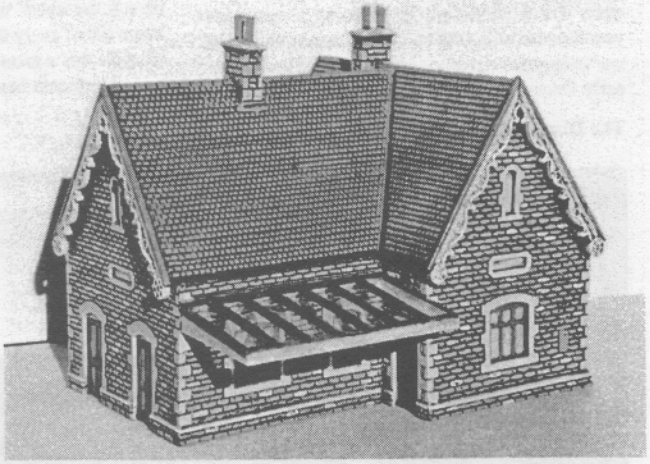

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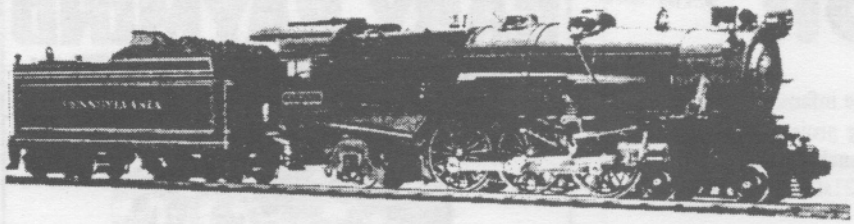

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End of the Line

Late....again?

Yes, this issue is ***very*** late, and we've got more excuses than you can shake a stick at. Since space is limited, and since you probably don't want to hear the whole tale of woe, let me just say that our main computer, Big Mac, was down for nearly 8 weeks. Throw in Diamondhead '99, family vacation and some other obligations, and that pretty well tells the tale. We'll try to catch up and do better.

Report from the Tropics

Wintering in Florida has been a great experience, and we'll definitely be doing it again next year. Instead of holing up inside for months on end, we've enjoyed steamups and steamboat meets since early December...in our shirtsleeves.

The Diamondhead Experience

As always, the Diamondhead Steamup was outstanding. It's covered in this issue, so I won't get into it here, except to point out that organizer Jerry Reshew did get to enjoy a few minutes of steaming during "Founders Hour", as seen in the photo below. Nice to see Jerry enjoying the fruits of his labors, even if it was all too brief.

What's Next?

Don't forget to make arrangements to attend the National Spring Steamup, held this year in Newark, California. Richard Finlayson, who is the only person we know who seems able to squeeze 48 hours out of every day, has been working tirelessly to make this a great experience for all.

Until next time.....Happy Steaming!

Ron

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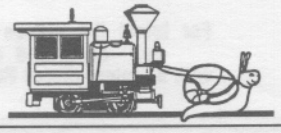

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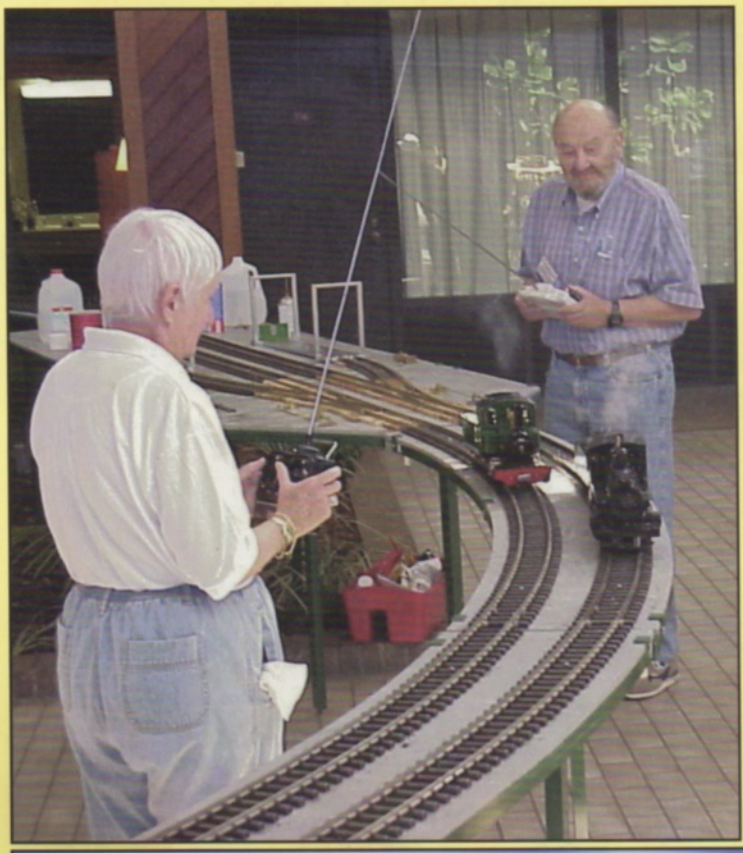
Yves Guillaume (Trinidad) takes a break in the steamup preparation, tuneup and repair area at Diamondhead '99. Yves and his wife Patti are regular attendees at the Diamondhead event, where Yves can often be found operating his smooth running, coal-fired Aster. Yves is also very generous with his time, and doesn't hesitate to help his fellow steamers.



1999

Clockwise from below: Ken Parkinson (Florida) prepares his scratchbuilt tug for a run on the pond at Whisper Creek Park in LaBelle, Florida.

Clyde & Jeanine Metzler (Florida) ready their Midwest Fantail Launch for a run at Whisper Creek. The engine is a Maxwell Hemmens, and the boiler was scratchbuilt by Bob Nowell.

Another of Ken Parkinson's tugs heads out of Coastal Marine on the Caloosahatchee River in Fort Myers, Florida.

Joan and Abe Cohen (Florida) polish the rails at Diamondhead '99. The family that plays together.....

Foreground: Richard Finlayson (California) prepares his loco. Background: Geoff Calver (England) points out some features of the new Aster Mikado to interested Diamondhead attendees.

Les Knoll (Illinois) proudly poses with his scratchbuilt Mallet...a fine running loco, and the subject of an article in this issue.