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WITH STEAM ON THE POND
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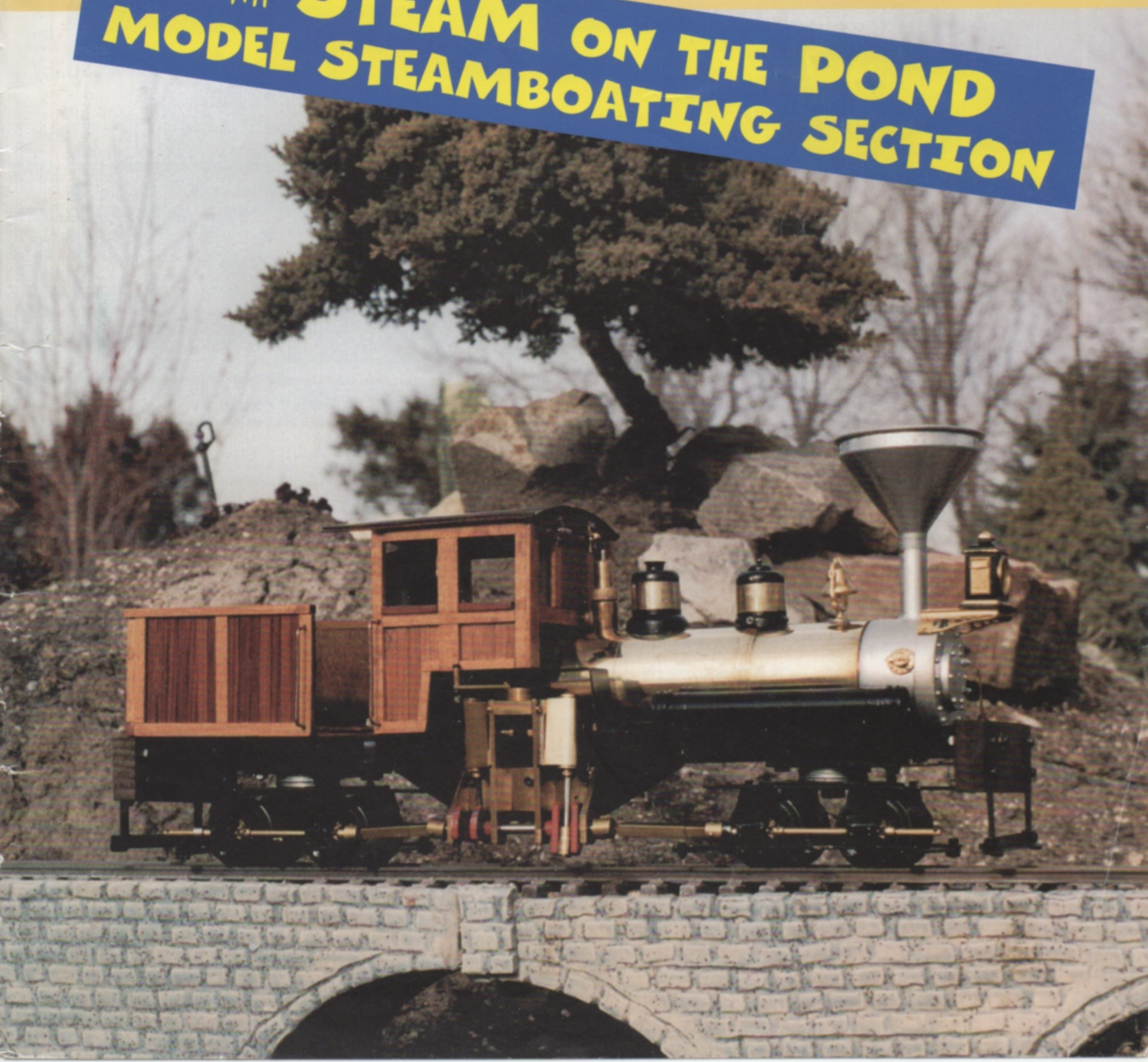

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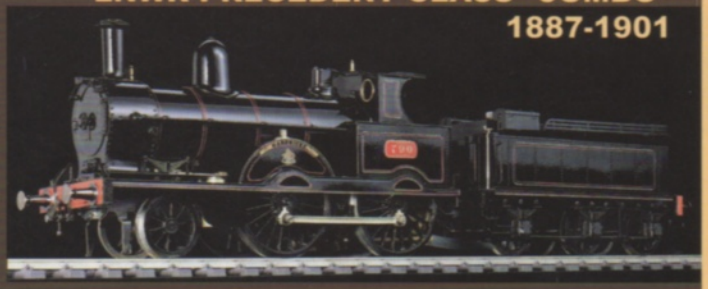

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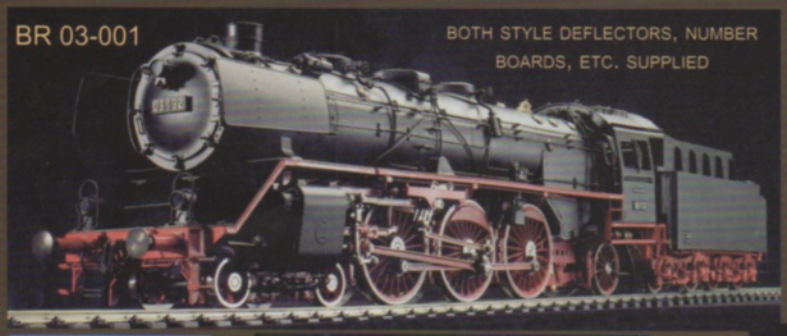

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STEAM IN THE GARDEN

with Steam on the Pond

Vol. 10, Nº 2

Issue Nº 50

March/April 1999

Articles

Departments

ON THE COVER:

Paint gleaming and brass polished, the elegant little Shay simmers on a viaduct in the noonday sun while the crew seeks relief from the heat in the shade of a nearby tree. You can read more about this loco on page 20 in this issue.

photo by Jerry Barnes

Check the back covers for more color photos!

Publisher/Editor
Ron Brown

Long Suffering Assistant
Marie Brown

Graphics Director
Harry Wade

CAD (and other) drawings in this issue by:
Larry Bangham - Jerry Barnes

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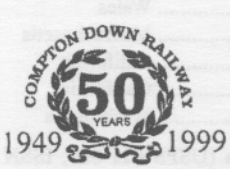
Our web site, ***Steam in the Garden Online***, is located at: <http://www.steamup.com>.

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 18, 1999 – Compton Down Railway 50 Years Commemoration. Peter Jones commemorates 50 years of his garden railways that carried the initials C.D.R. The event will start at midday and all are welcome. The CDR will officially be opened by a mystery guest. For more details, contact Peter at 01437-710811.

July 25, 1999 - Valley Forge Model Ship Society Fourth Annual Steamboats-Only R/C Meet at Gotwalls Pond in Kimberton, Pennsylvania. For details, contact Ernie Morris at (610) 948-8107 or Bob Verish at 610-033-8606.

August 28-29, 1999 – 2nd East Coast Large Scale Train Show at the Garden State Exhibition Center in Somerset, NJ. For more information, contact Jennifer Joy Polk, 558 7th St., Brooklyn NY 11215 - phone 716-788-0516

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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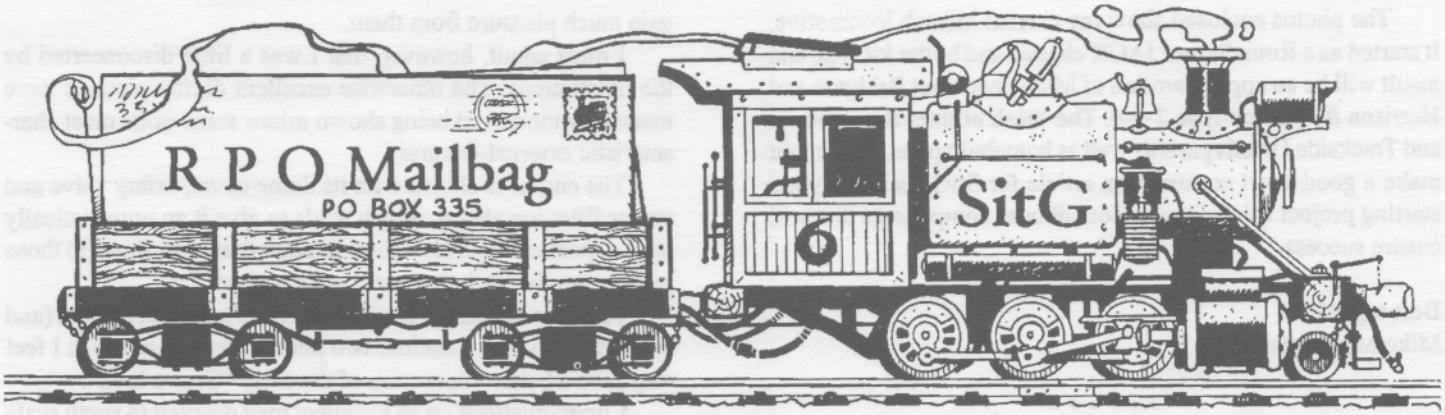


Letters from readers are welcomed and encouraged. Offer advice, encouragement, suggestions or constructive criticism. Tell us about your current project (and don't forget the photos!) or just share live steam experiences. But please keep your letters to a reasonable length so everyone has a chance to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

* * * * * *

Swarthmore, Pennsylvania
via e-mail

Dear Ron,

Emco Maier, the makers of the Unimat and other larger lathes, have for many years made a strong effort to sell to the hobbyist. It is was therefore a nasty surprise to me to find out recently that their policy is to discontinue supplying parts for a machine once it has been out of production ten years. Most of us expect a lifetime of service out of a good lathe or milling machine, so Emco Maier's spares policy is something to bear in mind when deciding what to buy, new or used.

Sincerely,
Murray Wilson

* * * * * *

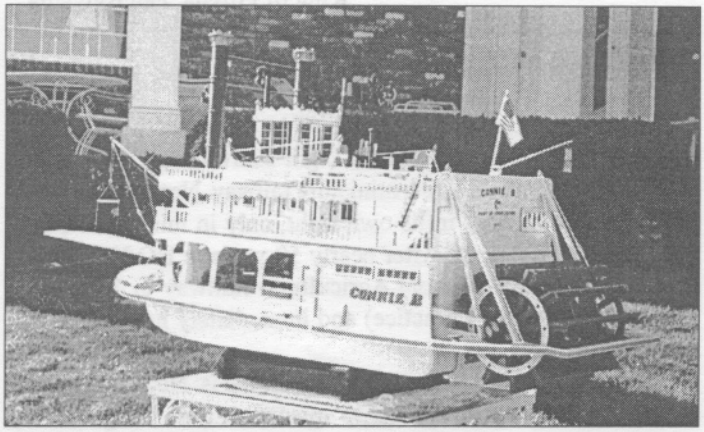
Charleston, West Virginia

Dear Ron & Marie...

SitG just keeps getting better and better! I am delighted to see us enter the world of 'steamboatin'.

I enclose a couple of photos that might be of interest to those considering this aspect of steaming. The CONNIE B (see photo, outside back cover) is a scratchbuilt sternwheeler based upon a composite of 1860 Ohio River packets. It is powered by a 2-cylinder Mamod SP5 steam engine. Alternative power is provided by a rechargeable electric screw driver...radio controlled...and a 110v motor for display purposes. The little steamer features a sound system for appropriate calliope music.

Vital statistics include an LOA of about 48 inches (excluding



the stage), a weight of about 40 lbs., and a scale of about 1/2" to the foot. With a paddle wheel of this size, the sternwheeler is very quick in the water...and best run with a canoe chase boat! Under steam operation, the top can be removed for ease of operation.

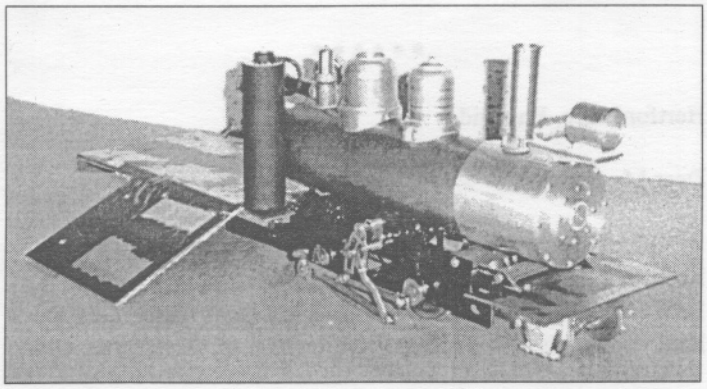
CONNIE B came about as a means of ferrying Mamod steam trains across a 35 foot pool on a train barge. Over time it has taken on a life of its own, however, and now is sort of a celebrity in its own right...and adds a great dimension to steam operations!

Best wishes,
Don Bowes

* * * * * *

Framingham, Massachussetts

Hello Ron,



The photos enclosed show my current kitbash locomotive. It started as a Roundhouse JACK chassis and boiler kit. The end result will be an approxiamtion of Maine two-foot Bridgton and Harrison #7 Forney-type 2-4-4. The 'bash utilizes Roundhouse and Trackside Details parts as well as homebuilt parts. This might make a good short construction article for SitG, as it is a good starting project using proven Roundhouse components that will ensure success.

Best regards,
Mike McCormack

* * * * * *

King of Prussia, Pennsylvania

Dear Editor & SitG readers:

When Rich Chiodo wrote, in SitG № 48, about the ongoing conversion of his Isle of Shoals Light Railway to 7/8n2, "(It) looks for all the world like a miniature railway. Not a ***model*** of a railway, but a railway in its own right, only in miniature.", he got it EXACTLY right! After nearly 50 years in HO/HOn30, I recently began the Belmont Agricultural Railway in 7/8n2 (2' Welsh/English 1890's practice) and immediately had the same reaction.

Perhaps the most attractive aspect for me is: No glue! I have so far built three flat cars and a 33' queenpost truss bridge without any glue. One can start, as I did, by ripping oak and poplar to size and then cutting and assembling using only wood screws, hex head lag bolts and machine screws and nails (ship modelers' brass planking nails work well and look correct in this scale) - and I only had to use glue on the journal covers of Steve King's wonder swing motion trucks.

It used to be said among "indoor" railroaders that 17/64" (true O scale) was the builder's scale, while S, HO, etc. were for mere operators. With the availability of steam boilers and mechanisms from the 1:20.3 world, the larger cabs afforded by 7/8" scale (permitting easier R/C installation) and the enormous visual impact of 1:13.7 rolling stock and 2' right of way, 7/8n2 may well become the building ***and*** operating scale/gauge combination of choice for garden railroaders. We all owe enormous thanks to Steve King, Rich Chiodo and others who are showing the way as pioneers.

Sincerely,
Jonathan Black

* * * * * *

Hertfordshire, England

Dear Mr. Brown,

Firstly, I would like to thank you for publishing Jerry Reshew's most complimentary review of our LADY OF THE LAKE model *(SitG, Sept/Oct '98)*. I am most flattered by the kind comments and hope that the owners of the engines will gain much pleasure from them.

I must admit, however, that I was a little disconcerted by the illustrations. The otherwise excellent digital pictures were marred by the model being shown minus some of its most characteristic external features.

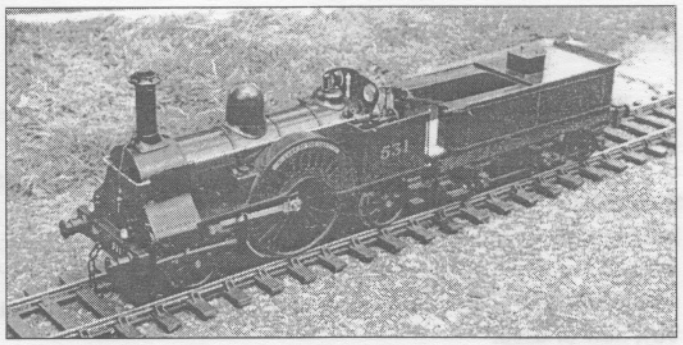
The engine is shown with its dome cover, safety valve and tender filler top absent, which tends to give it an unrealistically stark appearance and may come as something of a shock to those readers familar with the prototype's outline.

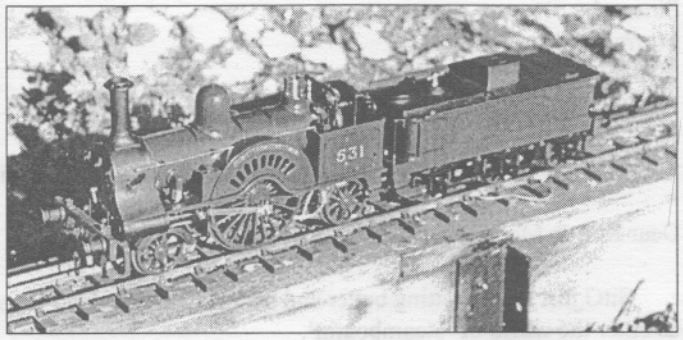
To better illustrate John Ramsbottom's simple, elegant (and deliberate) styling, I enclose two photos taken here which I feel may give a better impression of the early "Crewe look".

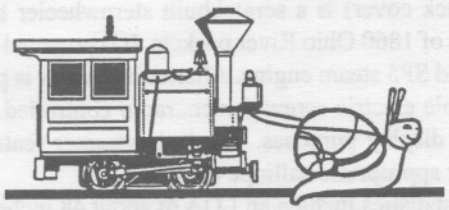
Congratulations on an excellent mag devoted to small scale steam. The new steamboat section is very welcome indeed.

With best wishes,
Harold Denyer
H.B. Engineering

Thanks for taking the time to write, Harold. Our sincere apologies for the oversight. The photos you included with your letter are reproduced below. LADY OF THE LAKE is truly an elegant locomotive, and we agree with you that it looks much better with all the bits and pieces in place. - ed.



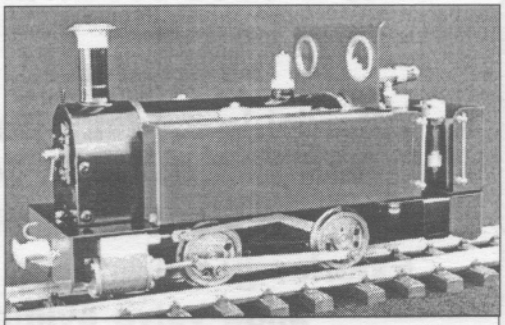




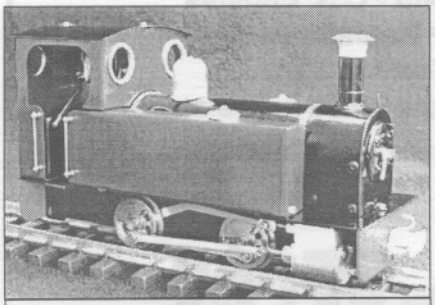
WHAT'S NEW?

Rose Boats, PO Box 217, Napier, 7270, Republic of South Africa - phone 02841-3894, produces hand-built pop-pop boats that are the Rolls-Royce of pop-pop boats. This is the simplest form of steam power, and many of us remember these delightful little boats fondly from our childhood. Rose Boats come in several different models, beginning with a small single engine boat and ranging up to a huge ship with three engines. Rose Boats are not inexpensive, but for those who don't mind paying a fair price for quality, they are indisputably the best. You may have seen and admired one of our own Rose Boats running in the pool at Diamondhead '98 and '99 during the Pop-Pop Regatta. They are beautiful boats and solid, reliable performers. Write or call for a catalog and price list, and please let the nice people at Rose Boats know that you read about them in *Steam in the Garden.*

Roundhouse Engineering Co., Unit 6, Churchill Business Park, Churchill Road, Wheatley, Doncaster, ENGLAND DN1 2TF - phone 011 44 1302 328035 (See their ad in this issue for e-mail and web site information) announces the start of a new range of inexpensive locomotives from Roundhouse to be known as 'The Basic Series'. Offered in ready to run form with slip-eccentric valve gear and external gas firing, but capable of being easily enhanced by the customer using accessory packs available from Roundhouse or their dealers. **MILLIE** is the first of this new range of low cost locomotives. She is offered ready to run in red or green and for either 32mm or 45mm gauge. Specification for basic model is : 0-4-0 inside framed chassis with double acting slide valve cylinders operated by slip eccentric valve gear - external gas firing - controls fitted as standard are: steam regulator, safety valve, displacement lubricator and gas regulator. - dimensions are: length 280mm, width 108mm, height 145mm, weight 2.2Kg. Contact any of the Roundhouse dealers advertising in *SitG* for more information, or to place your order.

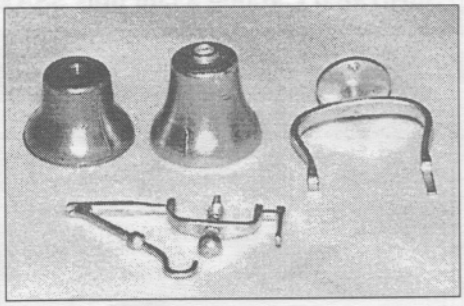


Basic MILLIE. *photo courtesy Roundhouse*



MILLIE, fitted with full cab, polished brass dome and pressure gauge. *photo courtesy Roundhouse*

JigStones 5th Anniversary Special: During 1999 JigStones offers a 3 mold bridge kit for $61.50 The kit will provide you with all you'll need to build bridges and includes detailed instructions. It comes in either Squared Stone or Brick. For a JigStones Catalog and color photos send $3.00 (reimbursable) to: **Sticks & Stones, PO Box 211, Elbridge NY 13060-0211.**



Trackside Details, 1331 Avalon St., San Luis Obispo CA 93405 has introduced a brand new brass loco bell kit (TD-181) in 1:20 scale.This bell is a beauty, like all the other excellent brass castings from Trackside, and it's just the right size for those 1:20 scale locos. We've shown it here with their old standard bell (TD-10, on the left) to show the size difference. Encourage Pete to keep the 1:20 castings coming by sending $3.00 for his catalog - and order some of these new bells while you're at it.

GAZING INTO THE FIRE

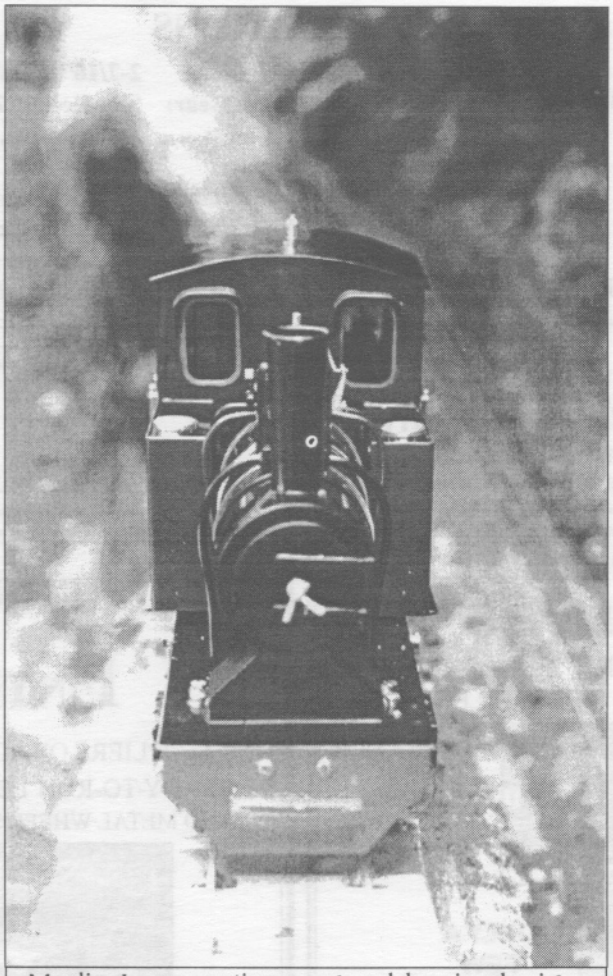
by Peter Jones

This 'n' that...

It was a sad lesson to read of Dave Pinniger's experiences with Wendy Davies and Merlin locomotives. Unfortunately he seems to have been one of many who regretted getting entangled. As is well-known, I was brought in to try and help things along. Sadly, I couldn't make a dent in the business practices and I encountered things I wasn't happy with. I came away with the conclusion that the basic design of most of the locomotives was excellent, but that the baggage that came with the company could produce a lot of grief. We are indeed fortunate in having Tag Gorton as the ***Keeper of the Merlin Flame*** to advise the world on how to get the best out of the locomotives.

But on to brighter things. The suggestion in the letters page that CO_2 could be used to extinguish flames put me in thoughtful mood. I got to thinking back on some of the odd experiments I fiddled with in days gone by. One was to take a CO_2 motor designed for a model airplane and to fit a propeller to drive a little railcar along. The thing was called WASP - partly because of the noise but also as an acronym for 'What A Silly Project'. It worked OK but was let down by the high cost of cartridges at the time. This also militated against another idea: driving a steam loco mechanism with CO_2 instead of steam. This worked as an experiment but, apart from the cost of running, there was the additional problem that a displacement lubricator wouldn't work. I would have had to have fitted a mechanical gizmo for a working engine.

Under the heading of 'don't try this at home, kids' I came up with the idea of using a can of liquid oxygen to turbocharge the flame of a conventional spirit burner. On the test bench this worked well: I could get a lot more oomph out of a conventional burner, size for size. But this was at the expense of phenomenal spirit consumption. Over and above that, however, I always felt uncomfortable with lox laying about the place. I remained worried about the possibility of disaster. I had used a lox cylinder from a micro welding set and when it ran out, I abandoned my experiments.



Merlin Locomotives - good basic design, but sometimes questionable execution.
photo by Peter Jones

Less successful were my doodlings with trying to ram additional air across the burners by fitting an air intake and venturi under the loco. The idea was to try and make the forward movement of the loco feed additional air through the combustion. Yes, you can see the first problem coming a mile off: it blew the flames out! In the end I fitted right angled bends in the air tubes so that the air was directed upwards into the wick material. I think that this increased the intensity of the flame but it was difficult to gauge because the only way to see was to run alongside the moving engine in an awkward anatomical position I suspect that there might have been an element of wishful thinking...

Of much greater success was a visitor to the Compton Down Railway: this was a model of a fireless locomotive. But instead of being charged with steam, it ran off air compressed into the boiler. It was a long time ago now but I believe it ran at 400psi and would offer about 15-20 minutes on one charge of air.

Finally, just when you thought things couldn't get worse, I confess to the mother of all cheats. It was a battery powered loco that had a steam generator in it. This was a small boiler and burner that took up all of the 'smokebox' and acted like a steam generator whilst the electric motor gave reliable slow running. I did start to experiment with a crude slide valve which ran off the otherwise nonworking cylinders. It seemed to work okay, and most importantly it fooled people into thinking that it was a proper working steam engine. I was around 10 or 11 years old at the time - but, even then, was devoid of shame.

LIVE STEAM MODEL

'Bantam' Mine / Quarry Locomotive
0-4-0t

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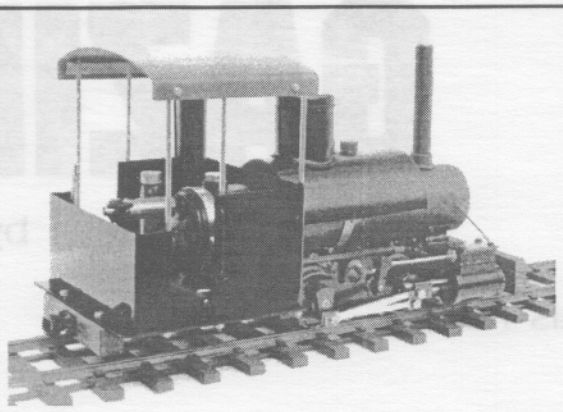
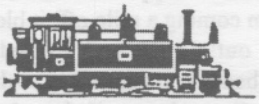


SPECIFICATIONS

Scale:	**1.20.3 (15mm/ft)**	**Cylinders:**	**2-7/16" x 1/2"**
Gauge:	**1(45mm) and 0(32mm)(re-gaugeable)**	**Valve Gear:**	**Slip Eccentric**
Weight:	**2.2kg**	**Fittings:**	**Safety valve, Regulator**
Length:	**280mm**	**Firing:**	**Butane Gas**
Width:	**110mm**	**Lubricator:**	**Displacement type**
Height:	**135mm**	**Materials:**	**Bronze cylinders, brass platework, copper boiler (silver soldered), steel frames, stainless steel motion.**
Radius needed:	**600mm (2ft)**		
Boiler:	**Capacity 100cc single flue**		



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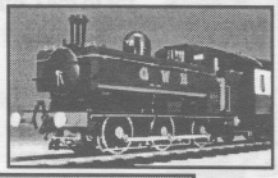
ASTER HOBBY

WORLD'S FINEST GAUGE 1 LIVE STEAM

KITS – RTR

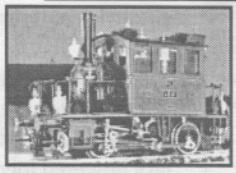
ONLY A FEW OF THESE MODELS LEFT

BR 62 SOLD OUT



PANNIER TANK ONLY 6 RTR's LEFT! (of GWR)

GLASKASTEN



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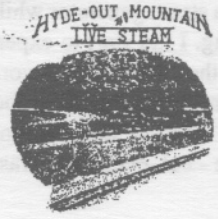

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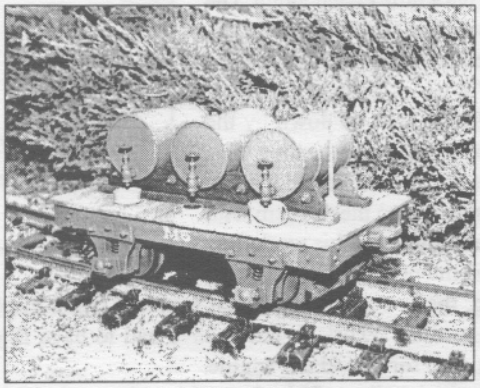

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Steam at the Nuremberg 50th International Toy Fair

by Manfred R. Meliset

An on-site report...

The Toy Fair was founded in 1949 in Nuremberg instead of Leipzig because this was in the eastern part of Germany and controlled by the Russian Army. So 46 companies started at Nuremberg and now the fair is visited by nearly 51.000 visitors from 120 countries. Very bad weather with ice and snow over the weekend have stopped a lot of visitors. At all companies with Railway-Models a lot of new items were found.

The president of **ARISTO**, Mr. Polk, was at the stand of **BACHMANN** to arrange a new co-operation for the European market.

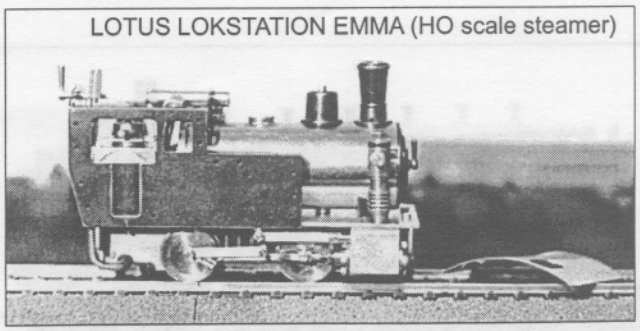
FULGUREX (Lausanne/Switzerland) presented Live Steam par excellence. First of all the two ASTER JUMBO's in black and red.

FULGEREX (ASTER) JUMBO

On this stand also was the SNCF 231, and one (unpainted) MIKADO, both machines only samples. Furthermore, they will produce a German BR 03 with alcohol firing.

The **Lotus Lokstation** from Austria, well known for the digitally mastered turntable tor Gauge 1 and IIm/G, brought a 0-4-0 gas-fired live steam locomotive EMMA in HO 1: 87 to the Fair. This tiny toy is the second work from Peter Dallanora after

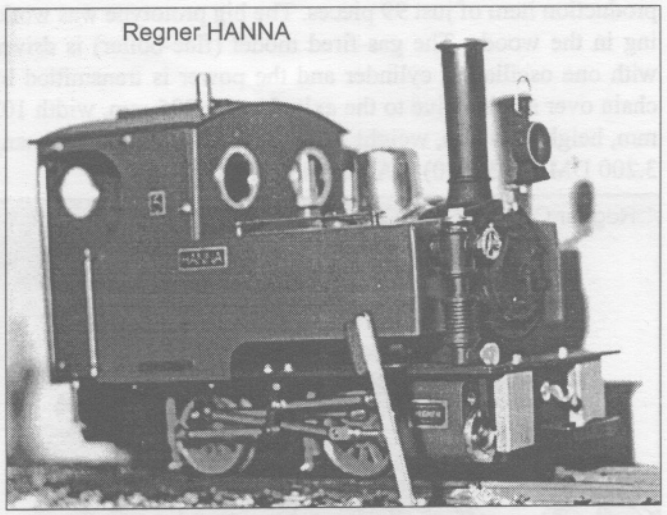
LOTUS LOKSTATION EMMA (HO scale steamer)



his steam Bugatti. The dimensions are - length 90 mm, high 51 mm, width 33 mm. The boiler works with the pressure of 1,5 bar and one boiler filled with 5,6 ccm water is good for a running-time of approx. 5 minutes. EMMA is a freelance model of a light railway locomotive prototype by Hanomag/Henschel. This is not a low-price model, but at DM 4.490 have not shocked too much, so that maybe the limited number of 35 pieces will be sold soon. I have heard that Lotus received more than one order during the Fair.

Manfred Regner (Regner Dampftechnik, Aurach) showed 4 new gas-fired live steam locomotives at the Toy Fair. He started 1997/1998 with a construction kit (1:22.5 - 45 mm) for a 0-4-0 EMMA, and this girl has in the meantime acquired some sisters, like FRIEDA and now the new HANNA. The big prototype of

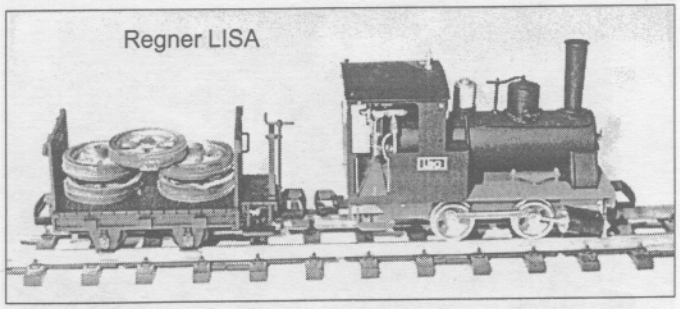
Regner HANNA



this narrow gauge locomotive for light and military railways was build in France by Decauville, and is well known over the whole world. HANNA is available May/June this year. The price will be less than 1.500 DM (approximately US$900).

The second new item and a new sister for EMMA is now LISA (1:22.5 -45 mm) a small Ready-to-Run 0-4-0 live steamer.

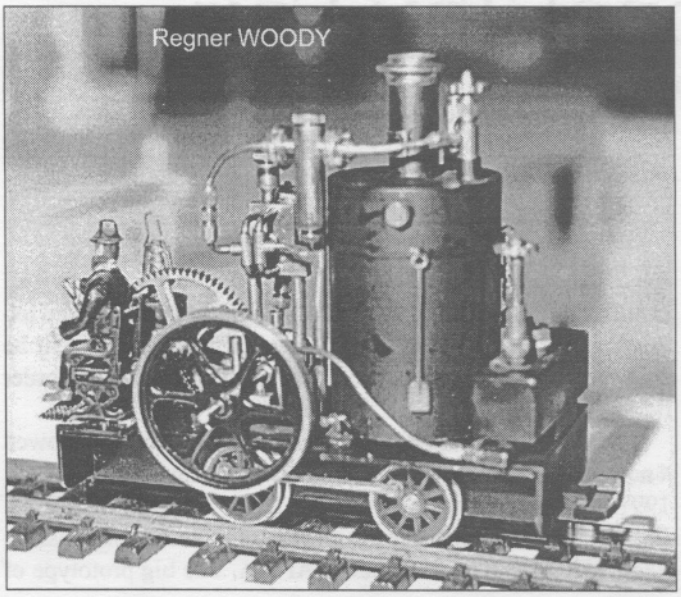
Regner LISA



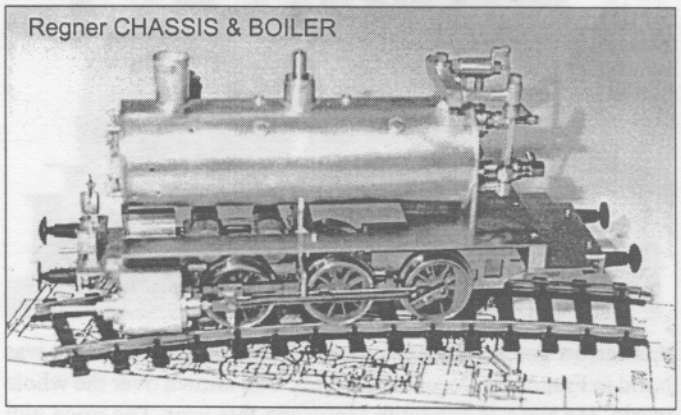
This is the absolute low-cost model here in Europe in live steam with a price of 799 DM (approx. US$455). Gas-fired with ce-

ramics tube-burner, turnable direction by R/C (R/C not included). Running time with one filling of gas approx. 12 - 15 minutes, weight 1450 g, length 178 mm, width 85 mm, high 135 mm.

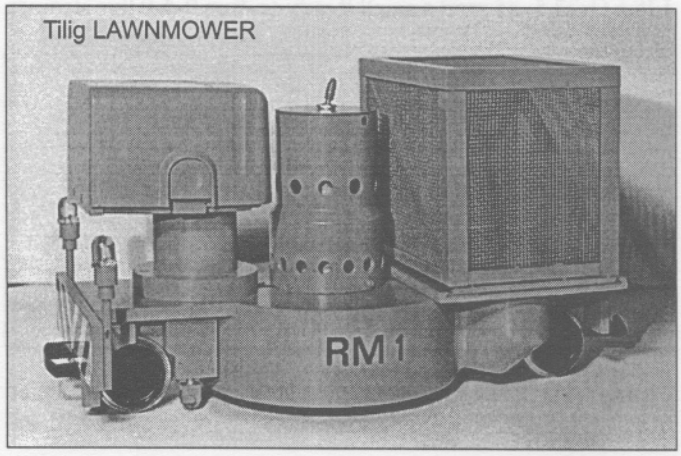
The 3rd new model is WOODY. This model is a limited



production item of just 99 pieces. The big prototype was working in the woods. The gas-fired model (flue-boiler) is driven with one oscillating cylinder and the power is transmitted by chain over a gear drive to the axle. Length 225 mm, width 102 mm, height 190 mm, weight 2500 g, the price here in Germany 3.200 DM (US$1810). VAT included in all prices.



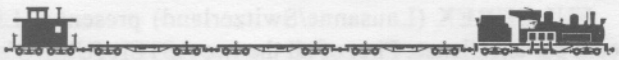
The first impression was not that this next item is something for model railways, but this is really a lawnmower for 45

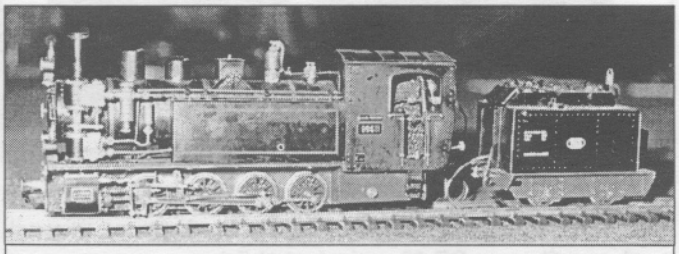


mm tracks. It helps to keep the grass along the tracks down to 6,5 mm over the top of the rail. The lawnmower must be pulled by any model locomotive and got enough power from an accumulator. The grass is collected in a special box. The price for this prototype was not written, but will be around 500 DM (less than US$300). The company, **Tillig,** one of the specialists for TT-Tracks, is considering production this year. The sales manager told me that they had a lot of interest in this unique item at the Toy Fair.

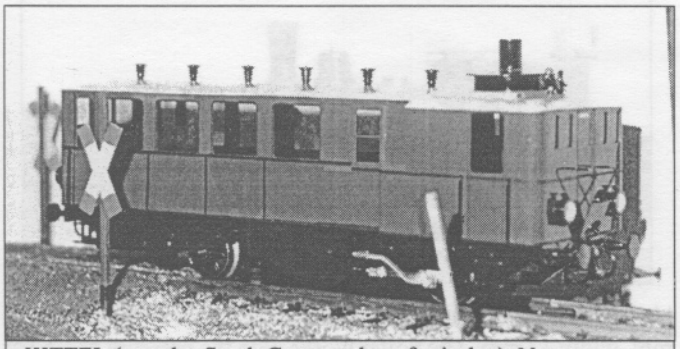
WILESCO, the most well known company in Europe for live steam toys, started last year at Toy Fair Nuremberg 1998 with their first gas fired live steam locomotive, the 2-6-0 LUCAS (Spreewald) as a construction kit. This year LUCAS has got a 2-axle open goods wagon, delivered also as a construction kit. Both locomotive and wagon were displayed at the Toy Fair. The price for the kit LUCAS is approx 1.500 DM (US$850).

The Author, Manfred R. Meliset, is editor and publisher of the German publication,* Garten Bahn, *a garden railway magazine that includes coverage of miniature live steam railroading . We appreciate his efforts in acquiring this coverage of an international event for our readers.





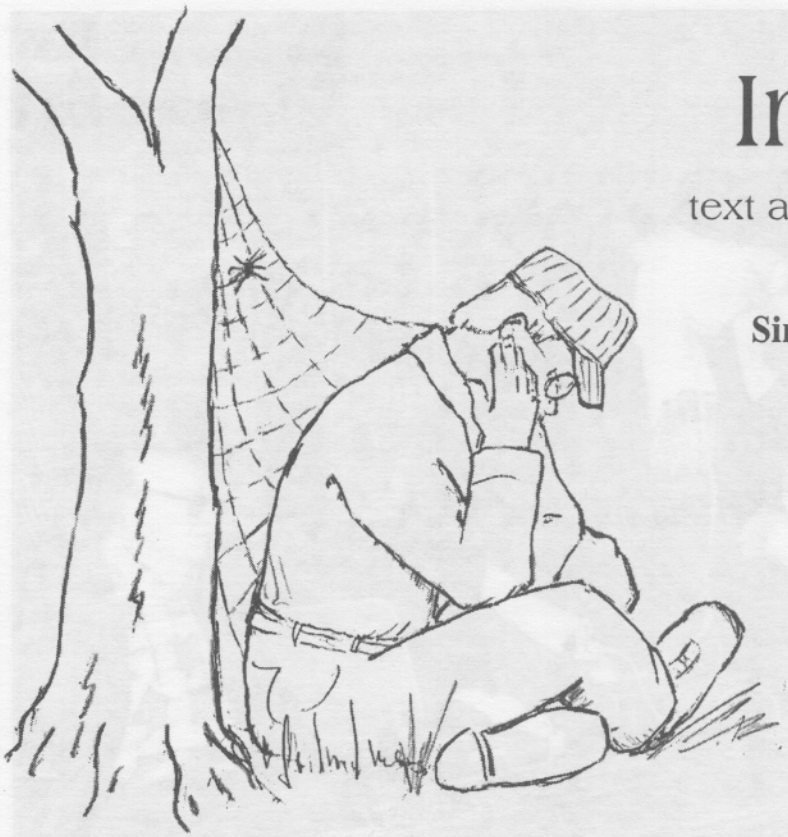
99611 narrow gauge–M: 1:22.5 scale, 45mm gauge. Coal fired live steamer built by Walter Kolb.



KITTEL (smock - South German slang for jacket). Narrow gauge 1:22.5 scale, 45mm gauge. This model comes from the workshop of brothers well known in Germany for exemplary live steam models. They usually build only one or two of each model.

Walter Kolb (84), formerly a professional coppersmith, started at the age of 60 with a second career. He began construction of gas fired live steam locomotives. For the past few years he has been the specialist in Germany for coal fired live steamers. Nearly every year he presents a new model. Shown here are a trio of coal fired steam enthusiasts and the new Garratt. Left to right are: Gerd Roder, Klaus Kiefer and Walter Kolb.

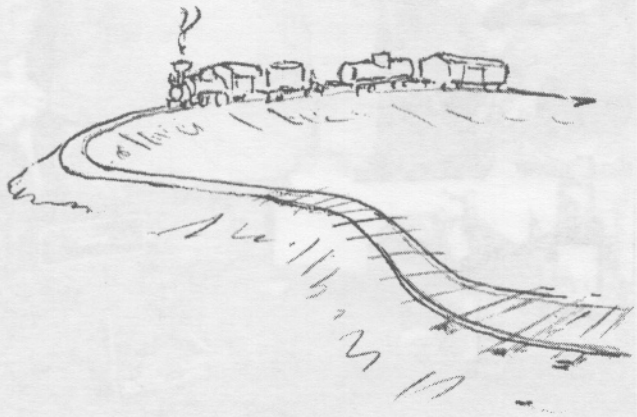
Lutz Hielscher (Wuppertal) - the constructor of the Spreewald live steam locomotive LUCAS (built and sold by WILESCO), presented the pilot model of his smallest live steam loco in HO scale (1:87). It will be produced in 2 or 3 different types (0-4-0 and 0-6-0).



Inside Track

text and illustrations by Larry Bangham

Simulating train loads and momentum



I have recently been involved in a project called the "Inertia Drag Car". This is a load simulator which is towed behind a locomotive and simulates the inertia of a scale loaded train by storing the energy of acceleration in a flywheel and feeding this energy back into the train upon deceleration.

My good friend Allan Starry and I discussed this approach to realistic operation a couple of years ago. It turned out that Allan and I shared a common experience of learning how to drive our first steam locomotive with an Aster C&S Mogul. As many of you know, this is a very lively steed and is a challenge to run at slow, realistic speeds without R/C. So our mutual preoccupation with slow speed realistic operation had a common origin. After we discovered our shared passion, Allan arranged to send me a 20/1 gear reduction unit and this prompted me into designing a drag car around it (see fig 1).

Originally conceived as a means of loading up spirited mainline type gauge 1 locomotives, the Inertia Drag Car can be configured to match the required performance of most types of engine and operator, regardless of their modus operandi.

For many people, the mention of the term drag car or load car brings to mind a device that presents a challenge for a locomotive. Something that will test a locomotive's pulling power. The Inertia Car can be configured to do that very well if that is all that is desired. But it is capable of much more.

In addition to its ability to load up a locomotive, it turns out that several other important effects take place when pulling a drag car. It is the purpose of this commentary to apprise you of these effects with the hope that the view of the drag car as a contest device can be changed to a view of the car as an aid to more realistic operation of gauge one steam trains.

For most types of operation, especially narrow gauge and mainline freight, where speeds and roadbed contours are less than flat out, the Inertia Drag Car can add greatly to the pleasure of driving a locomotive. One of the few exceptions might be a passenger train running heavy weight cars in high speed flat track running. But even this train might benefit from a little restriction, which would improve the acceleration and deceleration characteristics

Pulling an Inertia car allows the gauge one steam engineer to experience the running characteristics of a full scale heavyweight train. Something that cannot be done by loading bricks on cars or pulling super long trains. More on this later. Here are some of the effects of running this device:

1. Realistic speeds and rates of acceleration/deceleration
2. The ability to go up and down hills without throttle corrections or excessive speed
3. The ability to run at extremely slow speeds without stalling
4. The ability to hear the engine working
5. The ability to drive the engine, changing speeds, monitoring pressure, sight glass, etc. at a more leisurely pace
6. Top speed greatly reduced and/or limited by governor
7. The ability to drift for long distances
8. No more train chasing. Operating the engine manually without the benefit of R/C can be a real pleasure, especially for us old guys with Asters

I became an advocate the first time I ran this device behind my Aster C&S Mogul. I was amazed at the transformation when, without benefit of radio control, I opened the regulator to a wide setting and watched as the engine came to life, hesitatingly started and slowly accelerated. It continued to charge right up the 2 % grade on my back curve, and as it slowly began to de-accelerate, the combination of wider throttle setting and energy feedback into the train allowed it to keep on working and crest the grade. Running downgrade the energy was returned to the flywheel, causing the train to accelerate very slowly. I had never been able to do this with the Mogul under manual control without having a leaping start and a near runaway condition on the downgrade.

All engines may not show this change quite as dramatically as the Aster C&S Mogul, but they will all respond in a similar manner. The

ones that benefit the most are the high spirited or big engines that are difficult to run slow without a load.

Although pulling a drag car imparts the impression of a locomotive pulling a heavy train, there are some critical differences. A full scale locomotive probably experiences the greatest loads starting a heavy train or working a heavy load upgrade. Interestingly enough, the starting force of the inertia car is relatively low. Drag car no. 2 (see fig 2) starts moving with only a 3 ounce pull. This is the equivalent of about 4 plastic cars. Also, unlike a real load, the inertia and momentum of a drag car are unaffected by a grade. Once a full size engine overcomes the starting inertia and gets its load moving, the engineer can throttle back (depending upon the wind and other loads like grade or curve resistance), and still maintain his speed. The resistance of a drag car, on the other hand, starts out low and continues to increase greatly with speed, leveling off only slightly when running speed is reached.

These differences are the reason an engine pulling a drag car requires no regulator changes going up hill or down. A real train going uphill experiences an increase in train resistance in proportion to the percent of grade (grade resistance). When an engine pulling a drag car slows going uphill the train resistance decreases and the flywheel feeds energy back. Accelerating downhill the train resistance increases and the flywheel sucks the energy up. If you open the regulator far enough to climb the worst grade, everything else takes care of itself, providing the track conditions are suitable for reasonably good traction.

Good traction can be a problem at group functions, especially with portable tracks that usually get set up and torn down with a minimum of cleaning. With heavy usage they get pretty sloppy. Permanent outdoor track offers better traction since the rain, dew, wind and dust tend to dilute and dry up the volatiles, leaving a tractive crust.

A recent modification to Inertia car no. 2 was the addition of a small fan attached to the flywheel. Air resistance through the fan acts as a governor, limiting the top speed of the car. This idea was suggested by Allan Starry who, as a youth, had seen big fans being used on steam tractors to load down the engine during stationary tests. This type of fan is called a Baker fan governor and has been in use for a century or so. Using this device allowed me to tailor the drag resistance on car no. 2 by reducing the size and weight of the flywheel to better match the Mogul's ability, and still restrict the top end speed to about 40 scale m.p.h..

On a drag car with a heavy flywheel designed to run behind a large locomotive, the combination of flywheel inertia, 20/1 gearing and friction in the system will act as a governor, greatly reducing the top speed for a given regulator setting. The heavy flywheel will also increase the starting force and cause higher acceleration forces. Adding the fan allowed the tailoring of the starting force, acceleration, momentum, and top speed independently.

For easy starts and quick stops with maximum top speed control, the fan can replace the flywheel. It will provide low force starts and eliminates the momentum effect upon stopping. This is ideal for pulling longer trains. Since the train is already providing the inertia, the flywheel is not needed.

As the train speed approaches the critical fan speed, the train resistance increases, allowing the engine to run with a wider regulator setting to climb hills without excessive speed on the down hill side. Critical fan speed is the point when air resistance through the fan exceeds the drag car traction. However, the train resistance can continue to increase beyond the critical fan speed, depending upon the condition of the track. The flywheel eliminates sudden changes in speed, making starting, stopping and slow speed running more realistic. A combination of fan and a small flywheel gives the advantage of easier starts, smooth slow speed running, good top speed control and long drifting stops.

For high speed running, a small flywheel in combination with a low friction drag car using ball bearing journals will give more realistic acceleration/deceleration and still control the top end.

So you can see that the options of weight, friction, flywheel, and fan, when properly combined, allow the drag car to be tailored to meet the operational preferences of the individual.

Seeing the effects of the drag car prompted me to do some research on full scale car weights and rolling resistance, and reducing these to scale size, compare the weights and resistances to gauge 1 cars. I was then able to determine what scale loads the drag car was actually simulating. If there is an interest in this sort of information, this could be the subject of a future article.

Design considerations

To handle the tractive power, the weight of the inertia car should be at least 1/2 the engine weight on the drivers. An easy way to get a fair approximation of the tractive power is by dragging the engine with the drive wheels locked up, using a fish scale. Then to establish the weight requirement of the drag car, take a freight car and lock up the wheels by clamping the wheels to the side frames. Load it up then pull it by the fish scale until the desired drawbar pull is reached. Whether the weight or the drawbar pull method is used, the result should be about the same. The weight of the car will determine the maximum tractive effort that will be developed. When an engine exceeds the car tractive resistance, it will drag the car along with its wheels sliding and the flywheel trying to catch up.

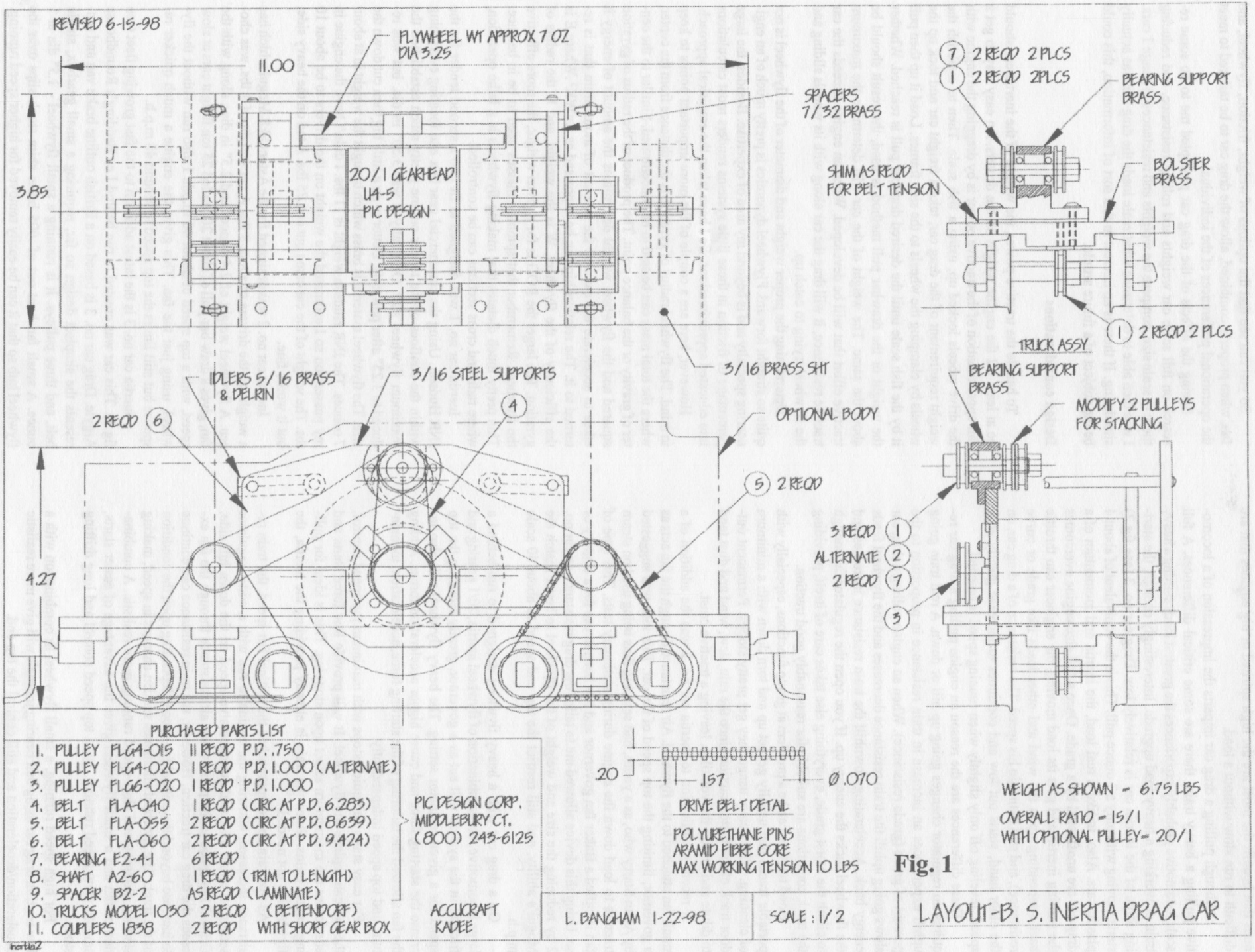
Determining the proper weight and diameter of the flywheel is not quite so straight forward. Flywheel dynamics is pretty much of an engineering specialty and is beyond my area of expertise. Besides, the large percentage of friction in these little systems renders most calculations into educated approximations. So I have taken the empirical approach.

However, here are a couple of the more important points to keep in mind. The flywheel radius of gyration is the distance from the center, where the total mass can be said to be concentrated. Similar to the center of gravity or the balance point. The product of the radius of gyration squared and the flywheel weight determines the amount of energy it takes to accelerate the car and the amount of momentum that is returned to it. The relationship can be expressed as $E=WK^2$ .Where E is the efficiency of the flywheel, W is the weight, and K the radius of gyration. The larger the ROG is for a given weight, the more effective the flywheel. Remember that spinning masses need to be in balance. This pretty much dictates that making flywheels is a lathe operation, where radii and cross sections can be controlled.

Inertia car no. 1 was designed to fit into a second tender for the JNR Hudson. Using the commercial gear box and locating everything within the confines of the tender outline pretty much established the maximum flywheel size. Originally it was 3.50" in dia. but was reduced to 3.25" after pull tests. Better to go a little big then cut down the size. The flywheel material is brass which brought the weight in at about 7 ounces. The JNR Hudson weight is 11 lbs. I didn't have the engine in my possession so I estimated the weight on the drivers to be about 10 lbs. The weight of the car came out at 6.75 lbs. A tad on the heavy side, but it works fine.

Inertia car no. 2 was designed for the Aster C&S Mogul which has a weight on the drivers of about 8 lbs. A car weight of 4 lbs. was chosen. A flywheel weight of 2.4 ounces and 2.5" in dia., along with the fan, gives a draw bar pull of about 20 loaded 25 ton freight cars at slow speed, with a top speed of about 40 m.p.h. I also run without the flywheel, using just the fan. This gives the engine a much quicker response but still limits the top speed to around 40 m.p.h.

Inertia car no. 3 is the latest addition to the fast growing fleet (see fig 3). This car was created to run behind Les Bedding's Roundhouse Argyle. Drag car no. 3 is based on a British outline brake van and represents the simplest design so far, requiring a small gearbox, single belt, and three pulleys. It is running a small flywheel - 1.5" dia at 1 ounce. A small fan bent out of .005 brass shim stock slips over the flywheel hub so that it can be easily removed for higher speed running.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FLYWHEEL WT APPROX 7 OZ
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SPACERS
7/32 BRASS
20/1 GEARHEAD
LI4-5
PIC DESIGN
3/16 BRASS SHT
7 2 REQD 2 PLCS
1 2 REQD 2PLCS
BEARING SUPPORT
BRASS
SHIM AS REQD
FOR BELT TENSION
BOLSTER
BRASS
1 2 REQD 2 PLCS
TRUCK ASSY
IDLERS 5/16 BRASS
& DELRIN
3/16 STEEL SUPPORTS
2 REQD 6
4
OPTIONAL BODY
5 2 REQD
4.27
BEARING SUPPORT
BRASS
MODIFY 2 PULLEYS
FOR STACKING
3 REQD 1
ALTERNATE 2
2 REQD 7
3
.20
.157
Ø .070
DRIVE BELT DETAIL
POLYURETHANE PINS
ARAMID FIBRE CORE
MAX WORKING TENSION 10 LBS
WEIGHT AS SHOWN - 6.75 LBS
OVERALL RATIO - 15/1
WITH OPTIONAL PULLEY- 20/1
PURCHASED PARTS LIST
1. PULLEY FLG4-015 11 REQD P.D. .750
2. PULLEY FLG4-020 1 REQD P.D. 1.000 (ALTERNATE)
3. PULLEY FLG6-020 1 REQD P.D. 1.000
4. BELT FLA-040 1 REQD (CIRC AT P.D. 6.285)
5. BELT FLA-055 2 REQD (CIRC AT P.D. 8.639)
6. BELT FLA-060 2 REQD (CIRC AT P.D. 9.424)
7. BEARING E2-4-1 6 REQD
8. SHAFT A2-60 1 REQD (TRIM TO LENGTH)
9. SPACER B2-2 AS REQD (LAMINATE)
10. TRUCKS MODEL 1050 2 REQD (BETTENDORF)
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KADEE
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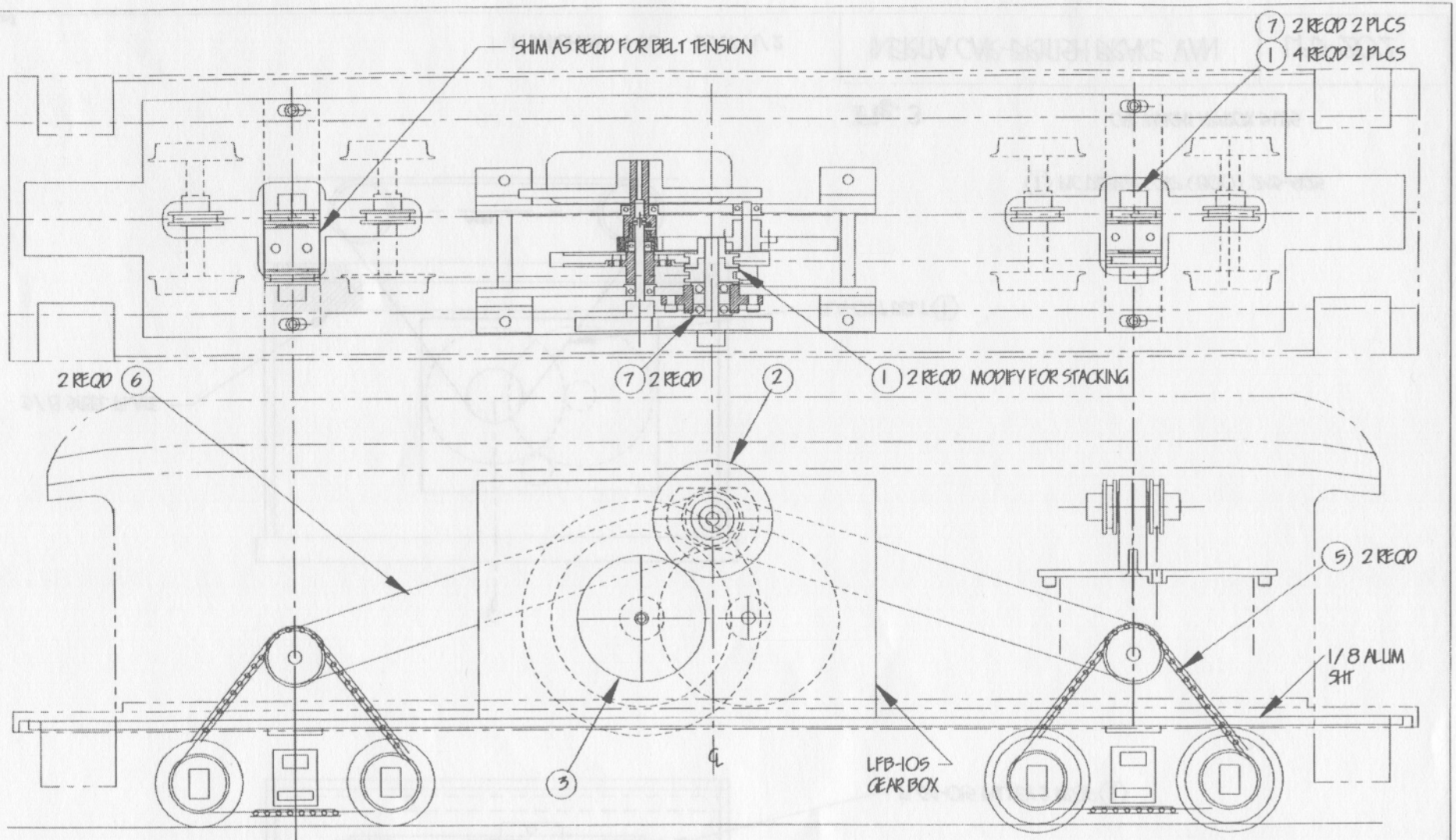
SCALE : 1/2
LAYOUT-B. S. INERTIA DRAG CAR
inertia2

Fig. 1



PURCHASED PARTS LIST

1.	PULLEY	FLG4-015	10 REQD P.D. .750
2.	GEAR	G60-52	1 REQD P.D. 1.625
3.	GEAR	G60-56	1 REQD P.D. 1.750
4.			
5.	BELT	FLA-060	2 REQD (CIRC AT P.D. 9.420)
6.	BELT	FLA-092	2 REQD (CIRC AT P.D. 14.451)
7.	BEARING	E2-4-1	6 REQD
8.	SHAFT	A2-60	1 REQD (TRIM TO LENGTH)
9.	SPACER	B2-2	AS REQD (LAMINATE)
10.	WHEEL SETS		2 REQD DEAN LOEW FOR BACHMAN

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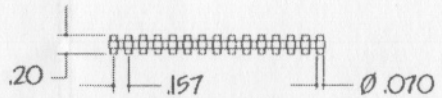


DRIVE BELT DETAIL

POLYURETHANE PINS
ARAMID FIBRE CORE
MAX WORKING TENSION 10 LBS

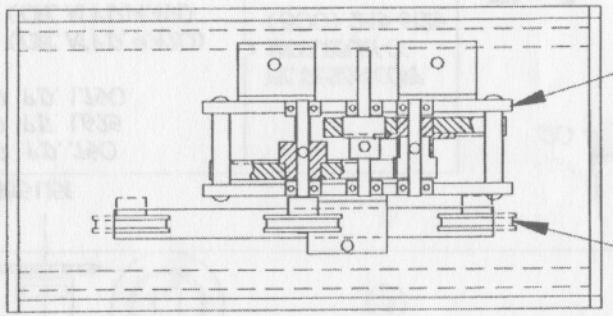
EST. WEIGHT = 4 LBS

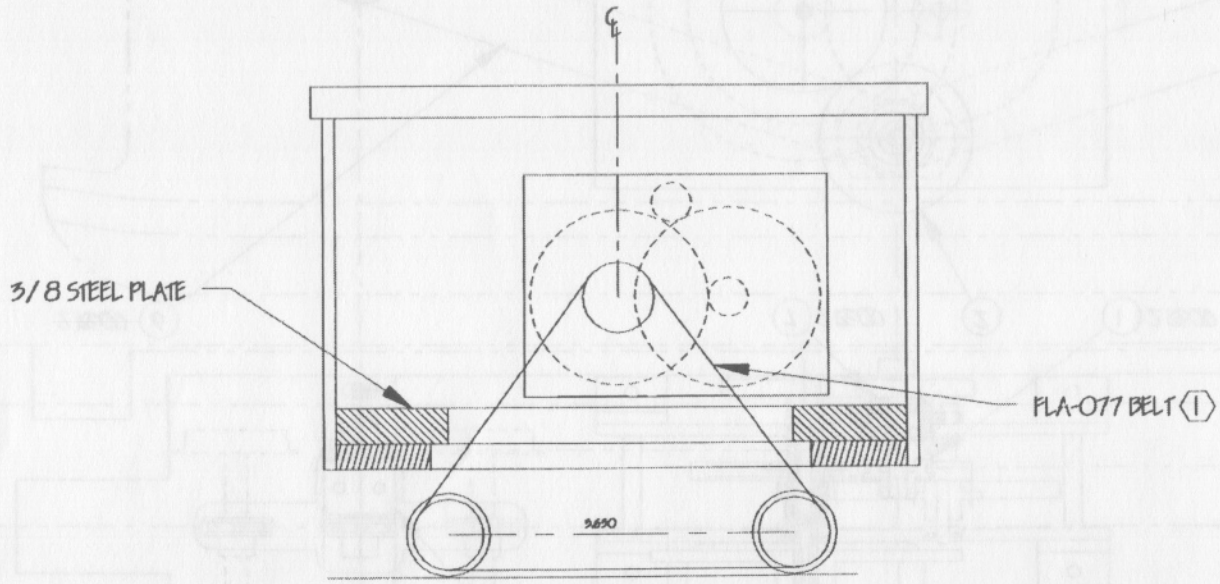
OVERALL RATIO = 20/1

Fig. 2

L. BANGHAM 5-21-98	SCALE : 1/2	INERTIA DRAG CAR #2 BACHMANN COMBINE	SHT 1 OF 2
			DWG NUMBER LFB-201

inertia2





⟨1.⟩ PIC DESIGN CORP (800) 243-6125

CAR WEIGHT APPROX 3 LBS

Fig. 3

L. BANGHAM 11-7-98 SCALE : 1/2	INERTIA CAR-BRITISH BRAKE VAN	LFB-202

inertia7

This along with the 3 lb. weight of the car are enough to put the Argyle to work pulling a simulated train load, in 16mm scale, of about 30-15 ton cars at 25 m.p.h.

The preceding examples of operation are all based upon a 20/1 step up gear box. The 20/1 ratio has been very successful, but is the major cost driver in both parts and labor. Smaller locomotives might get by with less gear reduction. Less gear reduction might require a more effective flywheel to provide the required inertia, and would also produce less friction in the system since there would be less amplification through the gear box. With less friction and a larger flywheel there would be more momentum returned and a greater need for speed control at the top end. However, with less step up through the gear box, the fan governor would be less effective, perhaps requiring some other method of speed control. It may be possible to eliminate the gear box completely for smaller locomotives. So there are lots of opportunities for experimentation. Various combinations will be tried in the near future in the hope that costs can be reduced.

Construction highlights

The inertia car incorporates very flexible Arimide fiber positive type drive belts and light weight aluminum sprockets. To allow 4 wheel trucks to pivot freely, the takeoff sprocket is located directly over the pivot point. The 20/1 gearbox ratio results in a flywheel speed of about 5,000 rpm at a scale train speed of 60 miles per hour.

To minimize friction all shafts have ball bearings and gear clearances are on the plus side. Noise isolation of the gear box from the chassis is recommended. Use rubber bushings at all attach points.

Conclusion

Of course like most good things there is a down side to the pleasure of the sights and sounds of our little engines working. The problems that real railroads have when they increase the workload on their steeds are no different than ours. Namely, shorter runs between fuel and water stops, accelerated wear and tear, and track conditions become more critical. But what the heck. Realistic operation should bring realistic problems.

Some model engineers might view using this device much as a crutch, or similar to training wheels. But right now I know of no other practical way of loading up an engine to simulate a heavy weight train. The problem with putting bricks in cars or pulling a string of 75 plastic cars, aside from the problem of transporting and setting them up, is that you end up with a high friction load. A dead load. The acceleration resistance of a dead load is formidable since there is very little "feedback" (momentum) to aid a slipping engine, helping it to gain a new footing. An engine that has trouble starting a dead load will have trouble keeping it moving.

An improvement would be to equip the cars with ball bearing wheelsets and give them scale weights (at considerable cost and effort). A 1:32 scale, 50 ton freight car would weigh about 3 lbs. That comes to 225 lbs for a scale weight 75 car train. It will still be high in friction by a factor of two or three, but if an engine can get this train started it won't have any trouble keeping it moving...on a flat track that is.

Effort on this project is now being directed toward finding simpler and more cost effective methods of producing Inertia cars, so that eventually an affordable product might be produced and made available to those interested in more realistic operation. During the pursuit of this activity I was put in touch with Larry Richards, a designer and small manufacturer in Seattle. As I explained the project to Larry it didn't take long for him to realize that he had been there before. Here is where I think fate may have dealt the project a winning hand. Larry informed me that he had the tooling for a momentum car that has been on the market in 'HO' scale for more than twenty years. He also told me that he was in touch with the inventor and would tell him of my project.

I soon talked to Clark Stuemtges, the inventor and manufacturer of the first commercially produced momentum car called the 'Drifter'. The purpose of the Drifter is to provide the HO engineer with the momentum effect of a real train, but rather than having the total load incorporated into one car, as in the Inertia car, each Drifter provides a small amount of momentum, so you would build a train by adding as many Drifters as your engine could handle. At only $8.00 a crack, why not? Having many Drifters in the train allows the engineer to do switching operations like humping and switching on the fly.

Both Clark and Larry have expressed an interest in getting involved with the Inertia car project, so who knows, with all this experience and brain power we should be able to come up with an affordable, functional product.

Keep on hauling!

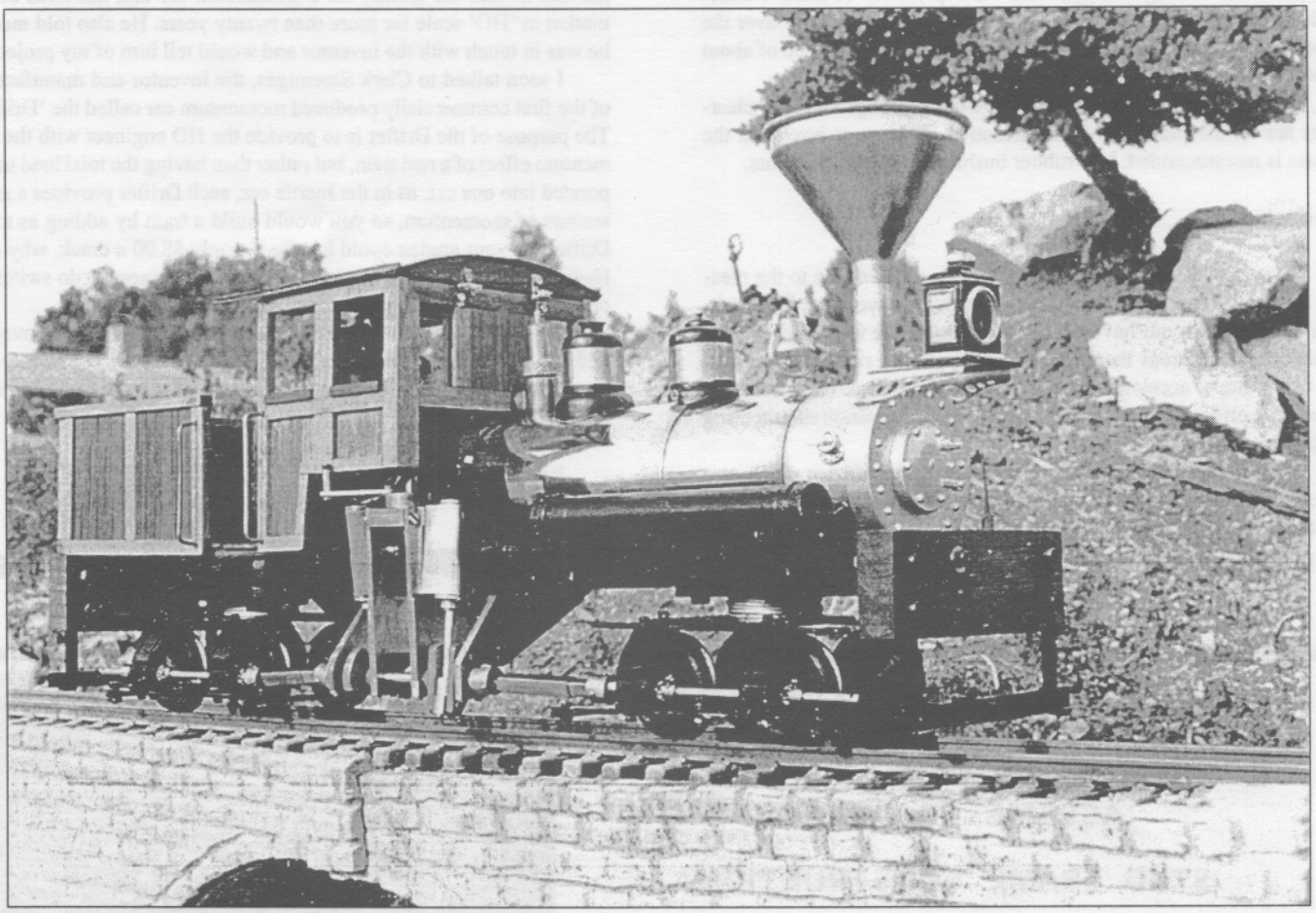
Steam Shay Notes, Part 3

text, drawings and photos by Jerry Barnes

Finishing Touches

Wow, it's been a long while since my last article on building a Shay...issue Nº 37, Jan/Feb '97 to be exact. Right after I finished part 2 of the Shay article I moved out of town to the country (love it!), which meant ripping up the old railroad and moving it.

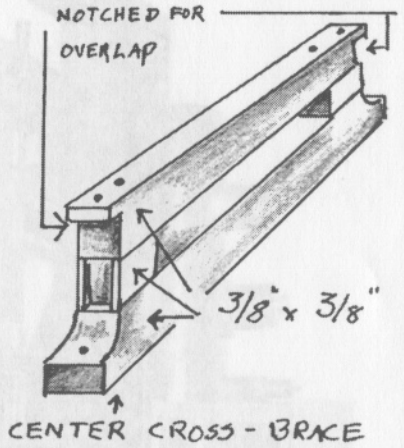
Since I am an art teacher, I have the summers off. This one was mostly devoted to rebuilding the railroad. On those really hot, muggy, Nebraska days I stayed inside finishing the Shay.

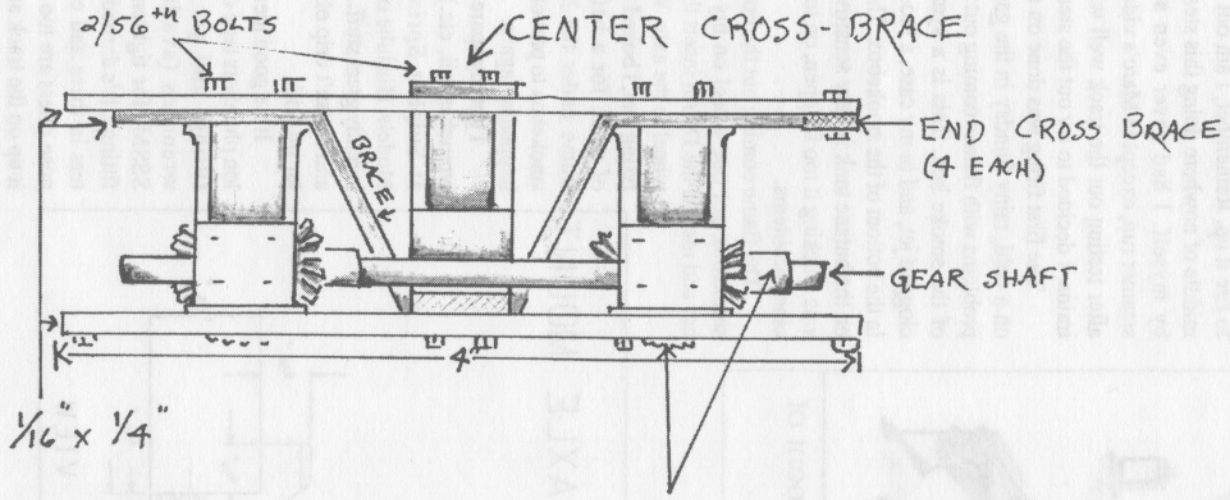


After moving tons of dirt and rock , digging a pond and laying a 60' brick sidewalk out to it, I relaid the track in a pear shape. It is elevated about a foot off the ground and is dead level for easy manual operation of the steamer.

As you may recall, in part 2 I had finished the frame, trucks and cab. I was planning on using a Roundhouse boiler, which I did. I also got a Roundhouse lubricator and a smoke box front from a SR&RL #24. All of these I got from Smoky up in Maine, a nice fellow to work with. Detail parts came from Trackside Details and Ozark Miniatures.

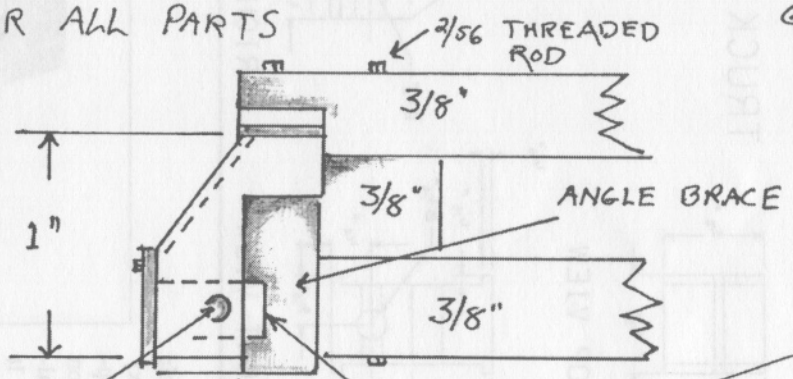
You might remember the 2-cylinder engine that Mike Chaney built for me. It came with some soft copper pipe and fittings to hook it to a Roundhouse boiler. The boiler went in with no problems. I made a brace out of brass to bolt the rear of the boiler to. Near the front I put a brass strap across underneath the boiler to hold it level. I also put in a brace to bolt the gas tank to. It is the stock tank that comes with the Roundhouse boiler. It also came with copper pipe and fittings to hook it up. The detail parts were mostly glued on with Loctite RC/609, or regular super glue. Neither one of these worked very well, so I used JB Weld, an epoxy that you can find in auto supply stores, although I got mine at wally world. It has held

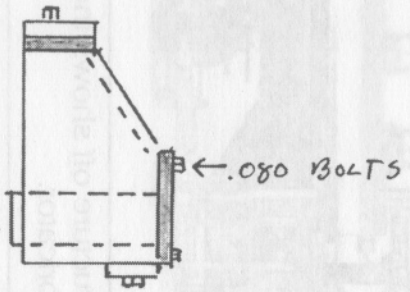




BRASS - FOR ALL PARTS

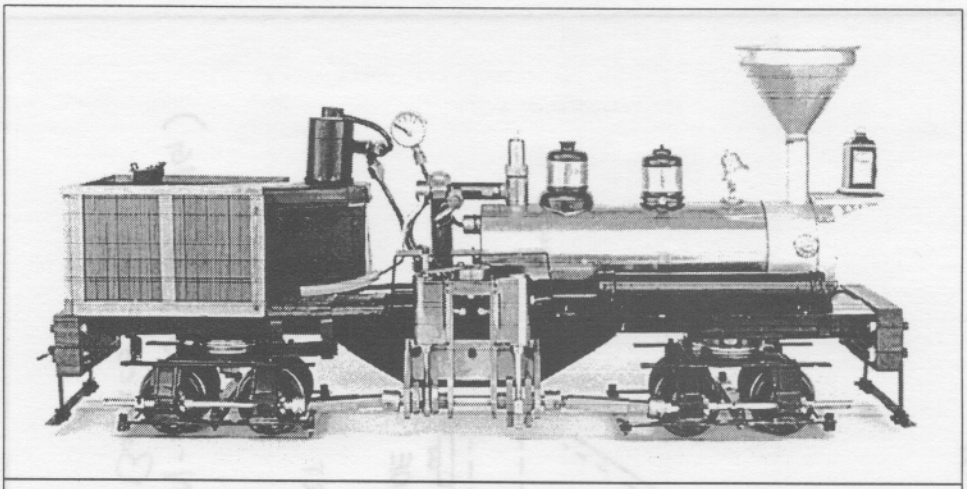
GEARS





SHAY TRUCKS

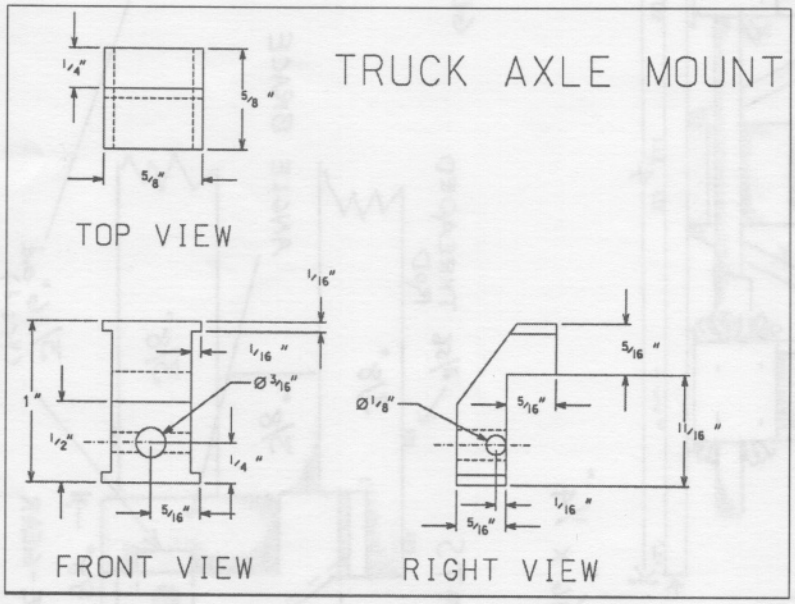
B.A.D. (BRAIN-AIDED DRAWING)
by Jerry Barnes



This photo with the cab structure off shows the placement of the pressure gauge and lubricator.

up well so far.

A trip to my friendly plumber got the copper pipe to fit inside the smoke box front and fit over the boiler. I had to grind out the inside lip of the smoke box front to fit the pipe inside. The couplings were all soldered onto the copper pipe, once they were bent and cut to size. I agonized a long time over bending the copper pipe, but it was easy to bend by hand. The pipe I got from Mike Chaney was even easier to bend; different blend of metals, I guess. I also soldered the brass stack onto the smokebox. The garage sale funnel was glued in with the Loctite.



I tried to get info from people on the internet on what to paint the locomotive with. None of their advice was helpful, mostly using epoxy paints that you needed special breathing apparatus to use safely. I ended up using Krylon hi-temp engine paint from my local Wal-Mart. Be sure to get hi-temp primer also. It has held up real well to the heat. I used black and silver on top of the primered metal. Just sand it with fine emery cloth and clean it off with alcohol before spraying.

The trucks got the same black paint, after I attached a few more pieces of brass to give a more accurate appearance. I also packed the bearing area with lithium grease for good axle lubrication. I left the wheels, u-joints and telescoping shafts un-painted. The cab got several coats of Valspar Val-Oil. A nice type of varnish. You should remember I am a 10' scale hobbyist...if it looks good from 10' it is ready to go.

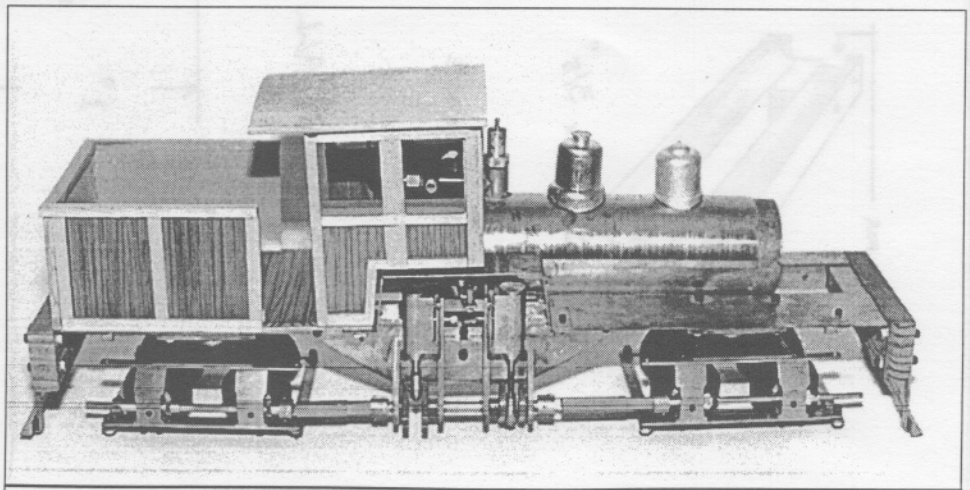
To be honest, the Shay sat on my bench looking at me for about a month before I tried to fire it up. Remember, I am out here in the middle of nowhere doing this steam stuff all by myself. I had never even seen a live steamer run, except in Marc's video. Finally, after testing out the track well with electric trains, I decided to try out the steamer.

The first firing was done on a test stand on a cold, rainy Sunday in the garage. I had problems with flames coming out the bottom of the smoke box. This is a symptom of a clogged jet, and in my case, a too-small hole in the bottom of the smokebox. The gas valve on the butane tank is very sensitive; I think I was cracking it too far open, on top of all the other problems.

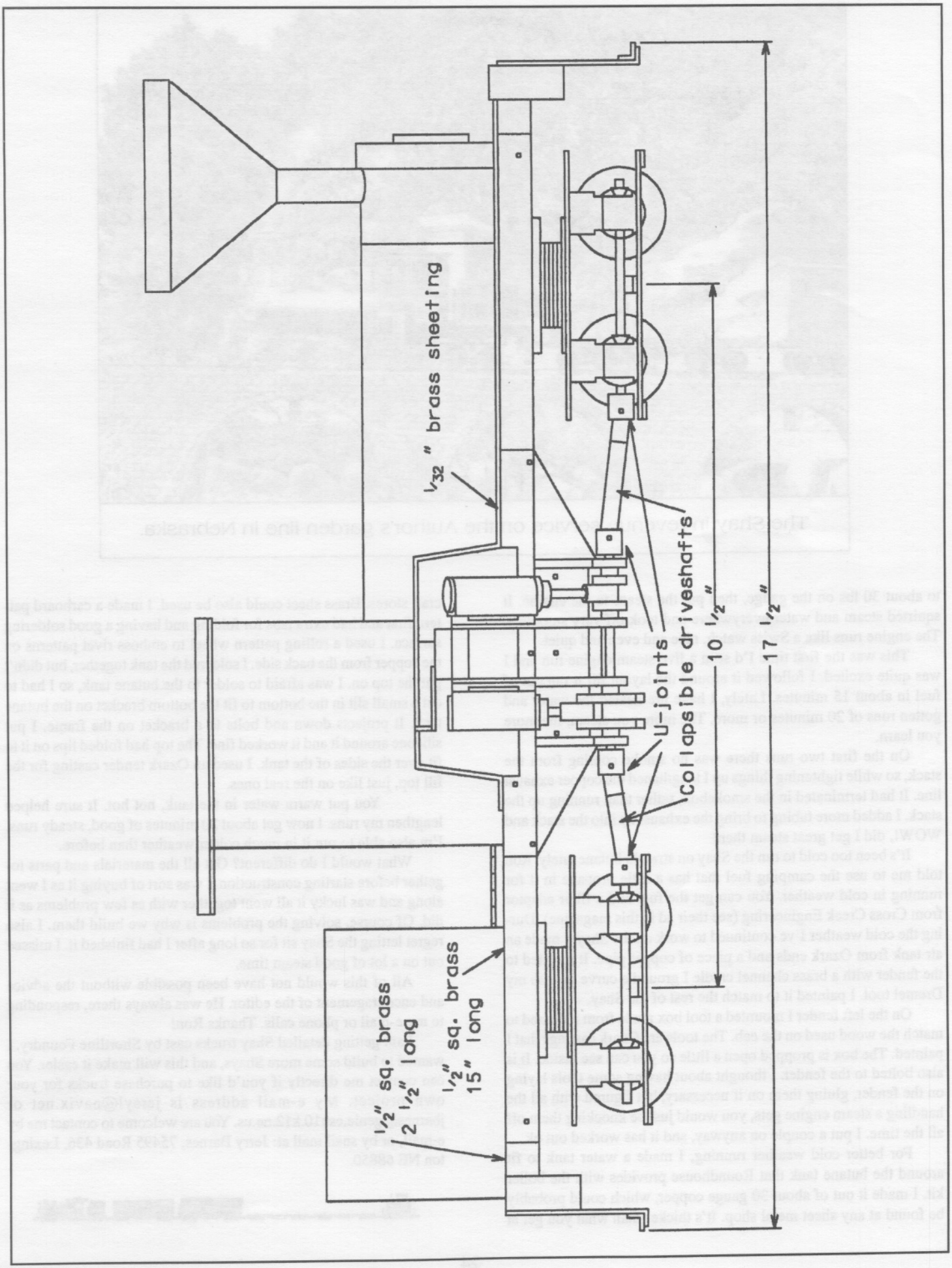
The flame coming out the bottom of the smokebox got one wheel on my trucks too hot and melted the Delrin insert that held the wheel to the axle. While I was fixing that, I bolted a thin piece of steel, for a baffle, to the frame under the hole in the smokebox to prevent this from happening again.

I got my spare parts (jets, wrenches, oil, etc.) from Bob at Sulphur Springs Steam Models. His lube oil for gears is really great stuff...it holds on and doesn't drip off like regular oil will.

It's a good idea to use teflon plumbers tape on all steam fittings and get some BA wrenches (available from SSSM) for tightening all the fittings. It's darned tight quarters in there and even needle nose pliers are too big. I fired it up on the track and got it up



No paint, no stain....no smokebox!


1/32 " brass sheeting
U-joints
Collapsible driveshafts
10 1/2"
17 1/2"
1/2" sq. brass
2 1/2" long
1/2" sq. brass
15" long

The Shay in revenue service on the Author's garden line in Nebraska.

to about 30 lbs on the gauge, then put the steam to the engine. It squirted steam and water everywhere and took off very smoothly. The engine runs like a Swiss watch, nice and even and quiet.

This was the first time I'd seen a live steam engine run and I was quite excited. I followed it around the layout till it ran out of fuel in about 15 minutes. Lately, I have pre-heated the water and gotten runs of 20 minutes or more. The more you steam, the more you learn.

On the first two runs there was no smoke coming from the stack, so while tightening things up I lengthened the copper exhaust line. It had terminated in the smokebox, rather than running up the stack. I added more tubing to bring the exhaust up into the stack and WOW!, did I get great steam then!

It's been too cold to run the Shay on straight butane lately. Ron told me to use the camping fuel that has a little propane in it for running in cold weather. You can get the fuel and a filler adaptor from Cross Creek Engineering (see their ad in this magazine). During the cold weather I've continued to work on the Shay. I made an air tank from Ozark ends and a piece of copper pipe. It's bolted to the fender with a brass channel cradle I ground a curve in with my Dremel tool. I painted it to match the rest of the Shay.

On the left fender I mounted a tool box made from redwood to match the wood used on the cab. The tools are Ozark castings that I painted. The box is propped open a little so you can see inside. It is also bolted to the fender. I thought about having some tools laying on the fender, gluing them on if necessary, but figured with all the handling a steam engine gets, you would just be knocking them off all the time. I put a couple on anyway, and it has worked out ok.

For better cold weather running, I made a water tank to fit around the butane tank that Roundhouse provides with the boiler kit. I made it out of about 30 gauge copper, which could probably be found at any sheet metal shop. It's thicker than what you get at craft stores. Brass sheet could also be used. I made a carboard pattern first and had extra tabs for folding and having a good soldering surface. I used a rolling pattern wheel to emboss rivet patterns on the copper from the back side. I soldered the tank together, but didn't put the top on. I was afraid to solder to the butane tank, so I had to cut a small slit in the bottom to fit the bottom bracket on the butane tank. It projects down and bolts to a bracket on the frame. I put silicone around it and it worked fine. The top had folded lips on it to fit over the sides of the tank. I used an Ozark tender casting for the fill top, just like on the real ones.

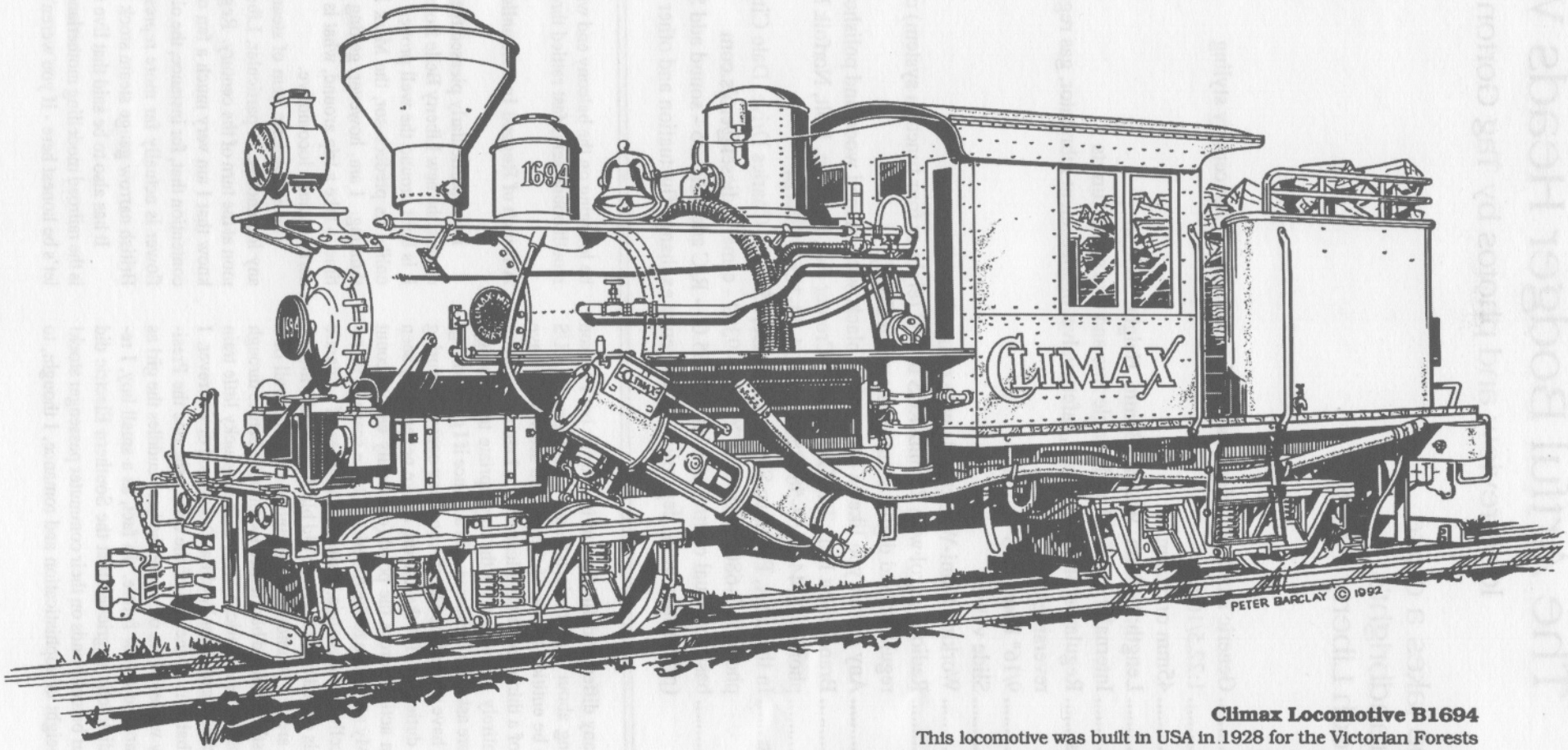
You put warm water in the tank, not hot. It sure helped lengthen my runs. I now get about 30 minutes of good, steady runs. I'm also able to run it in much colder weather than before.

What would I do different? Get all the materials and parts together before starting construction. I was sort of buying it as I went along and was lucky it all went together with as few problems as it did. Of course, solving the problems is why we build them. I also regret letting the Shay sit for so long after I had finished it. I missed out on a lot of good steam time.

All of this would not have been possible without the advice and encouragement of the editor. He was always there, responding to my e-mail or phone calls. Thanks Ron!

I am getting detailed Shay trucks cast by Shortline Foundry. I wanted to build some more Shays, and this will make it easier. You can contact me directly if you'd like to purchase trucks for your own project. My e-mail address is jersyl@navix.net or jbarnes@genie.esu10.k12.ne.us. You are welcome to contact me by e-mail, or by snail mail at: Jerry Barnes, 75495 Road 436, Lexington NE 68850.

Peter's Page



Climax Locomotive B1694

This locomotive was built in USA in 1928 for the Victorian Forests Commission. It spent 21 years in regular service hauling sawn timber on a tramway between Collins Siding and Tyers Junction, some 160 kms. from Melbourne. After many years of neglect and then some 9,000 hours of voluntary labour, the locomotive was returned to service in 1988 and is now a feature on the Puffing Billy Railway, Melbourne, Australia.

Number 6 of a series

The Artful Bodger Heads West

loco review and photos by Tag Gorton

Our scribe takes a close look at Brandbright's NEW, hi-tech Liberty Belle

Description ..... Generic North American locomotive with turn of the century styling
Scale 1:22.5/16mm
Gauge ..... 45mm or 32mm
Dimensions ..... Length: 845mm Width: 130mm Height: 165mm
Boiler ..... Internally gas fired with single flue and two steam turrets
Steam Fittings ..... Regulator, pressure gauge, safety valve, displacement lubricator, gas regulator, reversing lever
Cylinders ..... 9/16" bore x 5/8" stroke
Steam chests ..... Slide valves
Valve gear ..... Working Semi-Walschaerts with cosmetic additions
Options ..... Radio Control with 27 mhz RCS digital (eight or four function system) controlling reverser, regulator, and digital sound systems (if fitted)
Colour ..... Any colour you like as long as it is black, with stained wood and polished brass
Built By ..... Brandbright Ltd., The Old School, Cromer Rd., Bodham, Holt, Norfolk NR25 6QG, England
..... phone 011-44-1263-588755 - fax 011-44-1263-588424
Available from ..... In the USA, Potomac Steam Industries, 5595 St. Charles Drive, Dale City VA 22193
phone 703-680-1955 - fax 703-590-9399 - e-mail: diesel@erols.com
Price ..... basic, manual control version, $2365.00 - R/C add $233.35 - sound add $200.00
(prices may vary, depending on currency exchange fluctuation and other factors)

There are many different definitions of insecurity, but I reckon that a Brit, writing about an American steam locomotive in a US magazine, has to be entitled to one of them! You see while I have always had a bit of a thing about American steam, I am not unfortunately, always entirely at home with the appropriate terminology, and would therefore ask your forbearance in advance if I get it wrong!

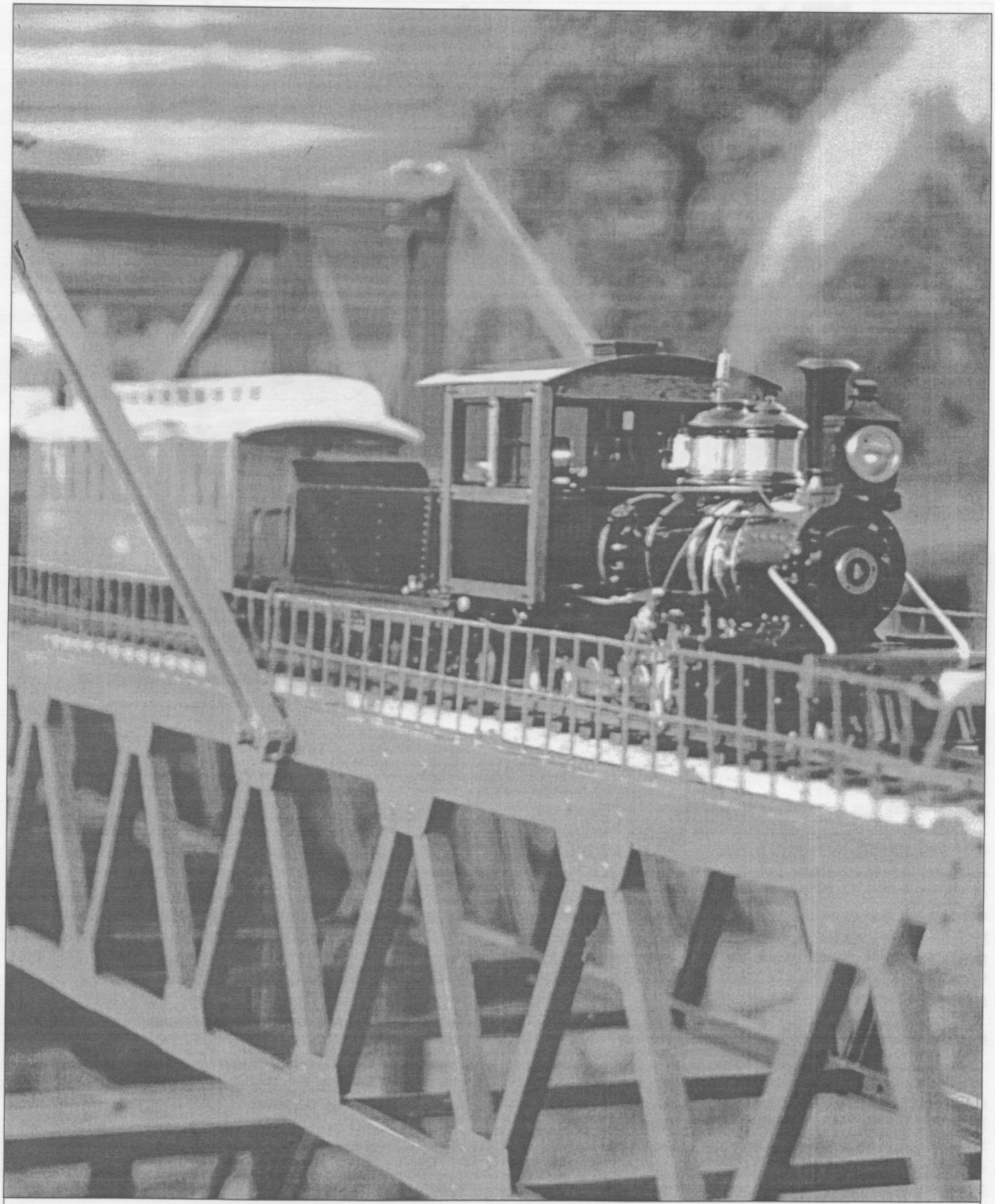
Now while I have visited the US of A on many occasions during the course of my duties for HM the Queen, I have never really seen steam properly in action across the pond (one really cannot count Disneyworld!). My attraction to the American steam scene is, therefore, a form of celluloid nostalgia, based on a series of romantic images and sounds culled from many an old black and white movie, and to me, there are few sounds more haunting than the wail of a distant chime whistle, as an old bar framed locomotive battles through the vast emptiness of the American West with its plucky little train of clerestory coaches, headed for Wichita, Deadwood or wherever. I always liked the balcony at the end of the train - the one the President magisterially waves from, or where the hero cuddles the girl as they head westwards to a new future. In fact, as a small boy, I remember feeling distinctly aggrieved that the Southern Electric did not provide similar balcony ends on their commuter passenger stock! It would be the height of sophistication and romance, I thought, to be lounging on the balcony end with an ice cream soda as the Portsmouth bound semi-fast rattled through Surbiton.

A Bunch of Rugged Individualists

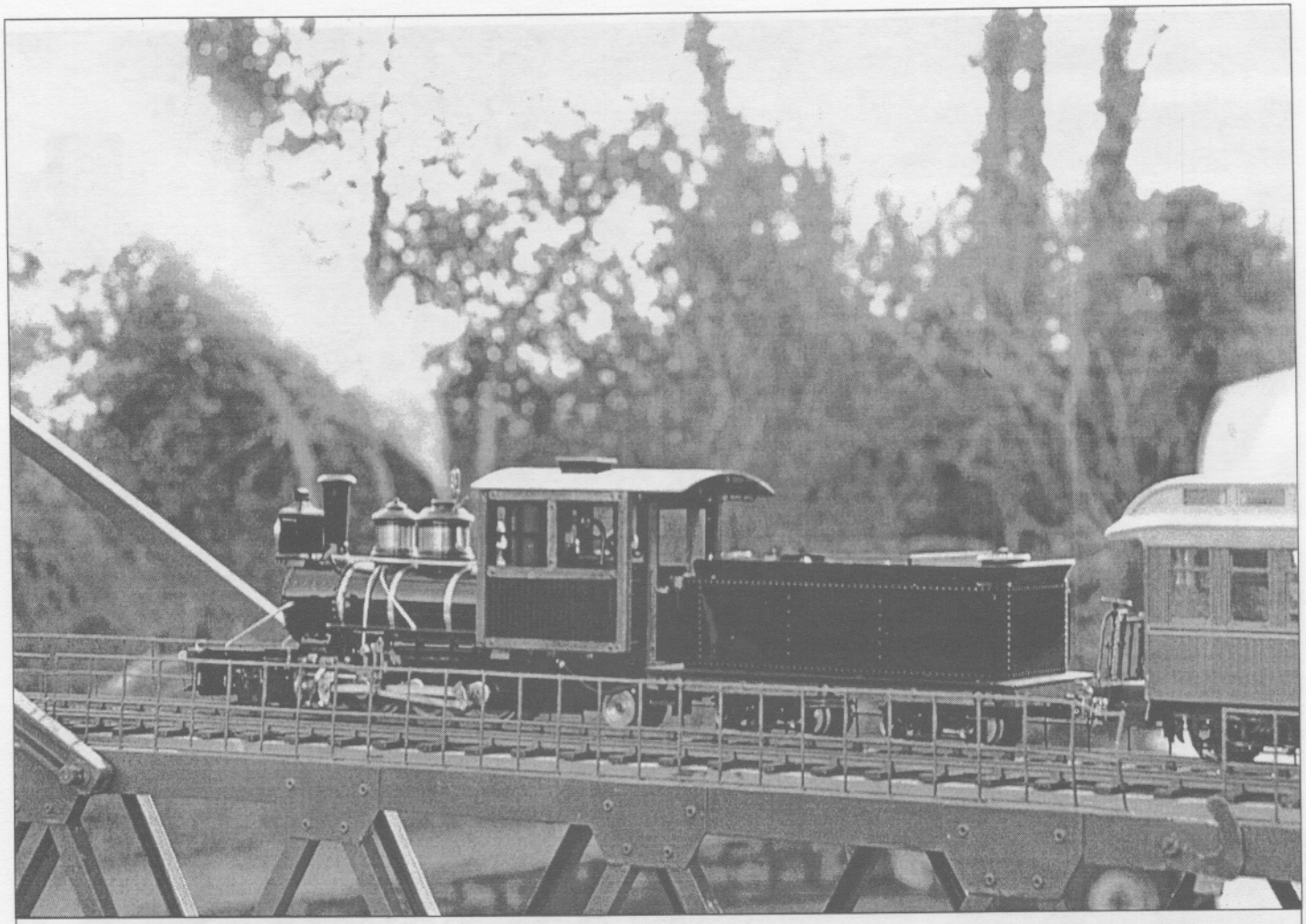
I was particularly pleased therefore, to be able to get my hands on this, the new Liberty Belle from Brandbright. Like its progenitor, it is built around the well proven Roundhouse Fowler chassis but, unlike its predecessor, the Mark II has had an injection of radical thinking. I am, however, getting ahead of myself and it is shortly time to take a trip around, what is to English eyes, a fairly massive narrow gauge locomotive.

This is ageneric item of steam motive power. Not a model of any locomotive in particular, Liberty Belle draws on styling common at the turn of the century. Regular readers of this magazine will know that I am very much a fan of this type of model, and it is my contention that, for instance, the old semi-scale generic Merlin Mayflower is actually far more representative of elderly tall funnelled British narrow gauge steam stock than any scale model.

It has also to be said that live steam narrow gauge in the garden is the railroad modelling motherland of the rugged individualist. Now let's be honest here - if you weren't just a little bit cussed you would



The wintry sunshine throws the rivet detail on locomotive and tender into high relief as Liberty Belle pauses on the steel girders for a photo stop. I was itching to put suitably florid decals on the tender sides.



The cab looks rather empty in this shot, but unfortunately the Longlands & Western Railway has no suitable engineers to put on the footplate.

not be reading this magazine at all would you? Of course not! You would be sat down comfortably in an easy chair with a copy of *Model Railroader* and a sheaf of catalogues for brightly coloured mass produced models. Our comparatively short production runs of effectively hand built models result in motive power that usually ends up as very muchone of a kind. We all have a desire to personalise our acquisition, even if it it just the addition of nameplates, and of the several Liberty Belles in operation in the UK today, it is understood that all of them have been customised to a greater or lesser extent by their owners.

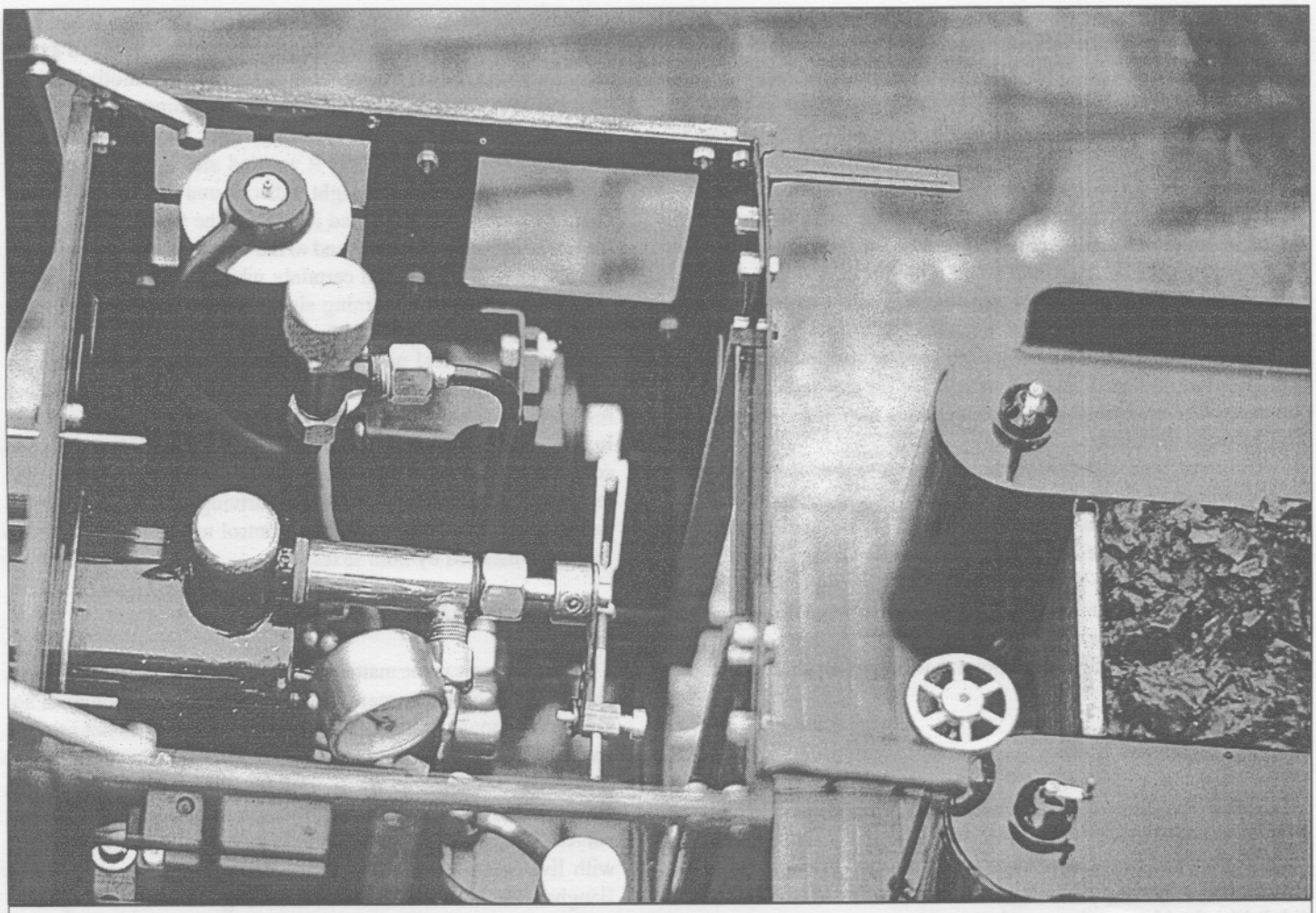
Ornate Victoriana

I always like to start with a stroll round the locomotive and, starting at the pilot end of this large 2-6-2, there is just that, a heavyweight pilot (or cowcatcher) casting, set on a timber drag beam with couplings of your choice. Sitting atop the smokebox is a large ornate Victorian oil lamp with polished brass bezel, reflector, real glass - the lot! What's more, this attractive item may easily be set to work because there is lots of room to tuck a separate battery pack in the tender. I would say, however, that I have fixed lights to a couple of my locomotives and they very rarely, if ever, get switched on. It is your choice, of course, and it is a nice feeling just to know that the lighting system really works.

The cylinder assemblies are the standard Roundhouse fit, but also boast castings to provide a more suitable outline, while the standard Roundhouse crosshead is replaced with the Sandy River version, which carries cosmetic drop link and combination lever.

The brass bound boiler is topped with period steam and sand domes. These are castings with added detail, such as polished brass barrels, whistle casting and pipework for sander etc. The working safety valve/boiler fill can be found below the lift-off steam dome as per the instructions, although I shall go into this more later. The obligatory boiler top bracket and bell are just in front of the cab and dummy clack valves with pipework are in place on the boiler sides. The traditional narrow running plates are set either side of the boiler together with handrails. There is also an air pump casting complete with its associated tank and a vacuum pump casting with pipework.

The roomy cab is of metal framed timber construction. Now I do like to see all this stained wood on American locomotive models. It is, after all, what the prototype was constructed from and it certainly adds very much to the veracity of the model. I was particularly pleased with the cab arrangement on this engine. The lift



The cab roof opened for running servicing. Note the steam turret on the boiler top. I would certainly fit a boiler fill system on this riser as I became at home with the operating parameters of this engine. I would maybe glaze the windows as well and it might be an idea to carve an engineer figure to fit over the servo on the right hand side. Perhaps he could be leaning out of the window in the approved manner. The oiler is tucked out of sight below the left hand window and drains below the footplate.

and turn operation of the cab roof is well thought out and the whole is strongly made. The standard Roundhouse ***in yer door*** regulator (my pet hate on these otherwise excellent engines) has been cleverly positioned to be both unobtrusive and to drain below the footplate.

It is still possible to drop the drain screw in the ballast, however, and I would suggest that you replace the standard drain screw with a banjo version which does not have to be fully unscrewed. This unsung and cheapo little gizmo is in fact a very worthwhile addition to any Roundhouse locomotive and is available from Brandbright or their agents.

Boiler Fill System

I have mentioned that the instructions state that the boiler is filled via the safety valve/filler cap below the lift off steam dome. Be aware, however, that there is a steam turret/filler also in the cab and I would most certainly recommend using this one rather than the boiler top fitting.

There are a couple of reasons for this. One is that all other servicing for running is conducted in the cab and it would seem to me to be logical to fill the boiler whilst charging the lubricator and filling the gas tank.

The other reason is more cosmetic because you see I would not want to remove the dome every time I filled the boiler. For a start it would be too easy to chip the paintwork, and also there is a whistle casting on top of the steam dome. I would want to fit a small chain from the cab to the whistle actuating lever. After all this is simple to do (there is a dimple on the lever to facilitate drilling) and how else would our 16mm/G-scale driver blow his whistle??!!

It is suggested that a suitable sized 0 ring is slipped over the filler cap to provide a friction hold will secure the dome semi-permanently and the boiler can always then, be filled from the cab turret. There is yet another dimension to this. As one become more at home with the parameters of this new steed, it may be that there would be a requirement to conduct railway operations with the locomotive remaining in steam all day rather than using a single

fill system. If this is the case then the cab turret would have to be used to fit the non-return valve for the boiler fill system (£15 from Finescale Engineering). This dinky fitting, (for those who have never seen one) can be used to top up the boiler whilst in steam using a ***hoselok*** type garden spray bottle. Alternatively the fitting can function as a perfectly normal screw cap for use with single-fill running.

Before proceeding Northwards to the tender itself, it is worth sparing a couple of moments to look under the footplate. Apart from the practical tender connection, which allows either close coupling or setting for a wider gap that will allow transition of tight radius curves, the pipework between tender and loco is represented by spring tubes that slip onto rods on the tender to provide a flexible cosmetic connection between the two vehicles. The comparatively unobtrusive R/C connections may also be found here between the frames.

The capacious eight wheel tender has a timber floor and a riveted bodyshell. There is plenty of room for a fireman, and detail includes brake wheel, water feed handles, wooden coal restraints and my own personal favourite, the small tap (faucet??) on the port side of the tender, that in my eyes, can only be for providing feedwater for the coffee jug! The cosmetic filler cap for tank replenishment lifts off to provide access to the power switch for the electronics and it is at this point that Liberty Belle, as promised, gets radical.

Antipodean Digital Radio

This locomotive not only uses the latest Antipodean RCS digital radio control system, purpose designed for live steam locomotives, but an additional electronic pack can also provide digital sound using a speaker in the tender. Yes, don't tell me, I know, I didn't like the idea much myself when I heard about it - but you really do have to try it for a couple of hours before allowing personal prejudice to interfere with driving pleasure!

The digital radio system itself needs a bit of getting used to, more especially if one is used to the standard ***joystick*** radio control systems provided with the general run of remotely controlled live steam locomotives.

The transmitter itself is around the size of a packet of ***fags*** in colloquial English, but I understand that ***cigarette pack*** might be a more acceptable term in the US! There is no external aerial as such, and the unit employs push button control. For instance the ***plus*** or accelerate button will provide a five second ramp up, while the ***minus*** button provides a similar ramp down, with a double speed ***quick stop*** if required. A real emergency stop can also be made by putting the reversing servo in neutral using the sequential button control if the situation warrants. Sounds really difficult doesn't it? At least it did to me!

Certainly it is a completely different method of controlling one's locomotive, and it took a couple of boilerfuls before I began to properly relax at the regulator. Perhaps it can be likened to one's first efforts at driving an R/C locomotive using conventional controls. Try handing over your transmitter to someone who has never driven a live steamer and watch them continually overcompensate as they struggle with a response that they expect to be as direct as that of an automobile accelerator. I found myself doing the same thing with the RCS controller, but soon settled to the collar and found the system quite easy to use.

The radio system does not glitch! However, I did find this gave me a sense of false security on a larger railway. When Liberty belle was negotiating the far reaches of Don Arthur's extensive line in the Tamar Valley, I found that the locomotive did not respond to my commands, but just kept steaming on at a steady pace. After a brief panic the loco came back into communication and all was well, but certainly it worried me. After a word with Richard Longley of Brandbright, I discovered that the track itself could be used as an aerial and if one put the transmitter close to the track the range would extend to the extent of the railway. This I found to be the case, and certainly while I have often used the ubiquitous glitch as a warning signal on conventional R/C systems, it is obviously better to have no glitches at all.

This is a radical new control system, purpose designed for live steam locomotion, and a short learning curve is required before one feels completely at home with the ***magic box*** controller. In fact, once one is used to this method of driving it is possible to control the locomotive from the depths of one's pants pocket! Fine for occasional showing off (who is driving that engine?), but I would suggest that this method of control not be used at garden meetings attended by both sexes!

Wail of a Chime Whistle

Turning now to the matter of electronic sound, I am very aware that this is an area that many dyed-in the-wool steamologists are wary of. I should first of all say that the system does not provide an electronic chuff because of the self evident fact that a live steam locomotive provides its own. The sounds provided on my test version were: chime whistle, bell, vacuum pump and blowing safety valve. The sound of a chime whistle is very difficult to replicate with live steam and, as far as is known, only the great Larry Bangham has been able to make a working one and certainly there are none made commercially. It is very definitely impossible to make a 16mm scale bell that will provide any sort of ***ding*** at all. In some areas we just cannot scale nature and this has to be one of one of them - unless Larry has any ideas of course!

The random vacuum pump affect is fine, but the safety valve sound would have to go if this was my locomotive, because Liberty Belle can provide her own, and in any case the sound could not be possibly be synchronised with the steam blow-off. Luckily it is perfectly possible to turn off the sounds that are not required and it is also possible to set the level of volume control to suit.

Naturally I did not attempt to do this on someone else's prospective pride and joy. What I did do was have an excellent running session with this locomotive. Now I know we are all ***serious*** live steam modellers...aren't we? But I have to tell you that this locomotive has lots of what Fisher-Price might call ***play value.*** As Liberty Belle took her heavy train through the farther reaches of Don's private prairie, the long lonesome wail of the chime whistle echoed back through the late winter afternoon and set me to humming, ***Do not Forsake Me.....***

This system has the added advantage of unlimited whistling without paying attention to the water level in the boiler. While there is no real need to blow the whistle all the time and I am aware that some people consider them to be a toy-like appendage, the point should be made that the prototype employed the whistle for a real purpose and, if you like, the whistle is part of a steam locomotive operating system.

Locomotives will give audible warning at grade crossings, before entering tunnels and before moving from rest. In the United

Kingdom there was a complicated whistle code that covered all sorts of operations, from banking a heavy train to informing the drivers wife in Nº 1 Railway Terrace that he would require his meal in ten minutes time!! When I drove my first whistle fitted 16mm steamer, I found it invaluable for warning twelve-inches-to-the-foot people of my approach - particularly when they were gassing up an engine close to the running line!

I also enjoyed drawing slowly into the depot with the digital bell tolling mournfully in the approved movie manner, while the intermittent sound of the vacuum pump sounded right while the locomotive waited for the off.

I will say that the combination of live steam and digital sound adds an extra dimension to our running pleasure. I did not have the opportunity to run this locomotive on a crisp, frosty day, but can you imagine the clouds of exhaust steam, combined with the chuff of a heavy locomotive under load and enhanced by the long wail of the chime whistle as Liberty Belle approaches a grade crossing? Do try the sound. It works, it's great and it's as simple as that!

Roundhouse Notes

The locomotive ran - well, rather like a Roundhouse tender locomotive! Liberty Belle is built around Roundhouse technology and, as this line of models has been the benchmark for scenic scale live steam these many years, the performance was faultless.

For the benefit of those who may have an older Roundhouse model, it may be instructive to run through a couple of the minor changes that have taken place recently. Mostly these are centred around the firing system, and a modern Roundhouse burner is both silent at normal operating levels and highly efficient. In fact so effective is it that some people have difficulty ascertaining whether it is actually burning! Running times with the new cylindrical gas tanks are given as approximately twenty-five minutes, although this does depend on how one drives and fires. It is common for instance, to see a gas fired locomotive running with the safety valve blowing and if this is happening then one is wasting gas. I usually run both Roundhouse and Pearse locomotives at half the given operating pressure, partly for this reason and partly because, at these pressures I have found that the model will far better emulate the prototype. Try running Liberty Belle with a heavy consist at around 25 psi and I guarantee that you will enjoy your driving experience.

.....And Finally

Liberty Belle carries a high level of detail for a locomotive at this price point and is an attractive model that captures the spirit of narrow gauge steam in the US. This engine has, as they say, few vices, and if I was pushed to find something to complain about it would only be that it employs plate, instead of the more prototypical bar frames. If the model were mine then I would do something about this because I am well used to stripping and altering my own stud. Having said this, it is not something that immediately offends the eye and certainly does not detract from the sheer pleasure of running this machine. The sophisticated R/C system, coupled with a digital sound system, adds a new dimension to running pleasure and I commend this model to those who wish to run an American narrow gauge steam operation in a prototypical manner.

Perhaps in the future other manufacturers will consider offering this type of hybrid system, which complements the sound of real steam working with carefully considered digital effects. There is one proviso however, and that is that this type of system is only really suitable for tender locomotives because of the requirement for appropriate siting of the amplifier/speaker system. It is mostly American locomotives that employ the difficult to replicate chime whistle and bell and it is serendipity that these are the locomotives that actually have the space for a speaker system.

STEAMUP IN DALLAS

by

Mike McCormack

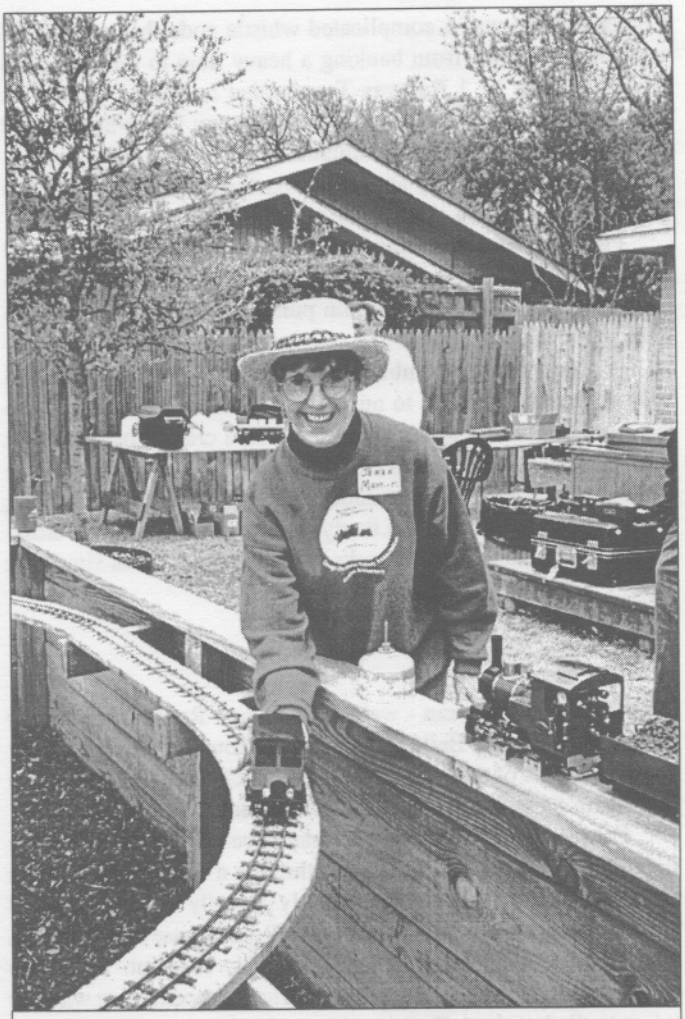
Dallas, Texas was the site of the first annual Matticks/Fuller Open Day/Steamup on March 27, 1999. Ken and Jerra Matticks and Dan and Judy Fuller were the hosts of this steamup at Ken's house. They put in a lot of effort to make this a fun event, and the results clearly showed. Ken's 32mm ("0" Gauge) track was in use as well as Dan Fuller's 32mm/45mm Dual Gauge portable track, which was completed especially for this event. With all that 32mm track, it felt like an English steamup, complete with overcast skies and one or two small showers. However, that did not stop this group. The solution: break out the golf umbrellas and keep on steaming, just like the English would do.

There were a number of 16mm locomotives in operation as well as Roundhouse and Pearse 45mm engines. Dan Fuller brought his Aster "Schools" class engine. Also present were a Mamod, a Jane, and a Cricket, along with a Frank S. The children and grandchildren who attended had an LGB track to play with, and it was well used.

The group included a contingent from Houston, as well as Dallas, San Marcos (all Texas), and Boston, Massachussetts. We even had a steamboat man from New Orleans who promised to come next year and operate his models in Dan Fuller's pool.

Many of Ken's and Dan's friends and neighbors came over to look at what this live steam thing was all about, and from my conversations with some of them, I believe we made a convert or two! The day's activities were topped off by dinner at a local steakhouse (what else would you expect in Texas?).

If you want to have a good time with a fine group of people, mark your calendar for the last weekend in March and head for Dallas. I know I'll be there again next year!

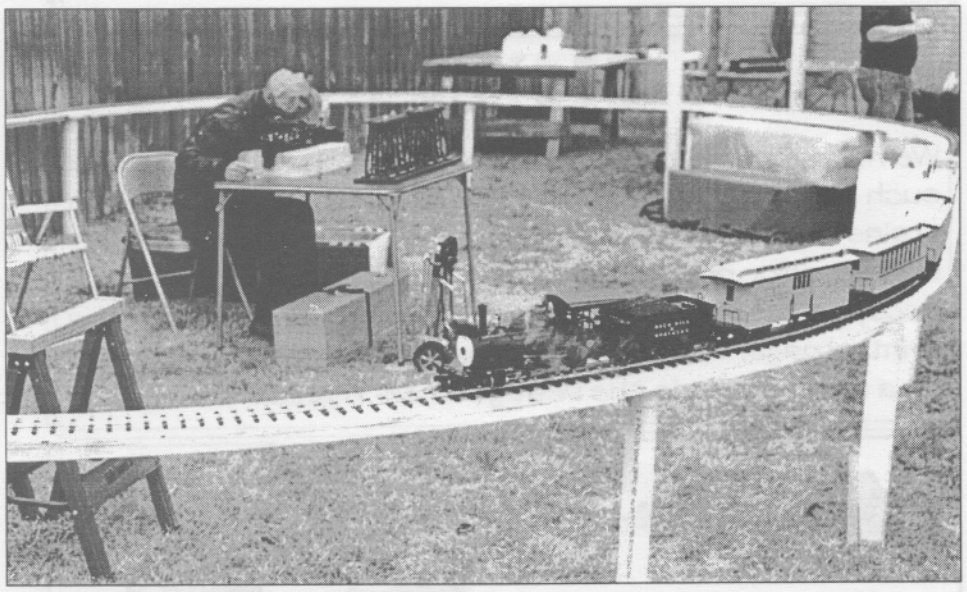


Maiden run of Jerra Matticks' railcar, built by Graham Smith. ***photo by Ken Matticks***

As seems appropriate for a steamup where gauge 0 track dominates, the Dallas Steamup included some rain showers...but the participants kept a stiff upper lip (and an umbrella close at hand) and had a fine time in spite of the weather. ***photo by Ken Matticks***

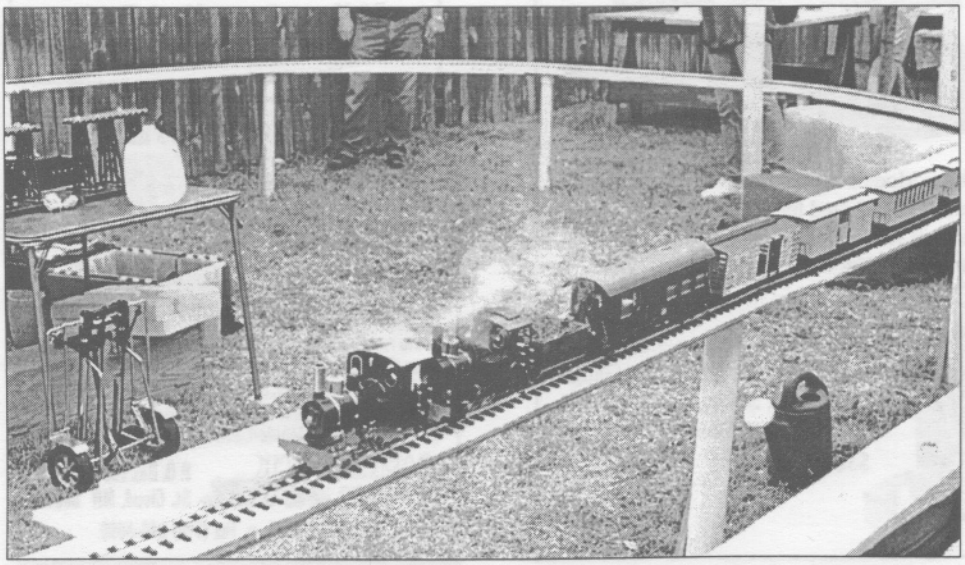
Ken Matticks closely watches the progress of his saddletank loco on the gauge 0 trackage.

photo by Mike McCormack



Mike McCormack's 2-6-0, kitbashed from a Roundhouse Lady Anne chassis.

photo by Mike McCormack



Roundhouse Billy doubleheader....

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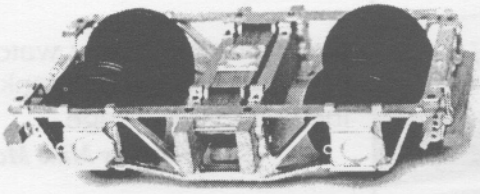

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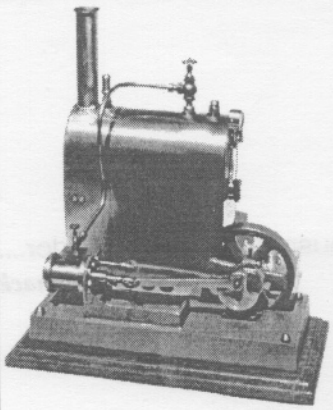

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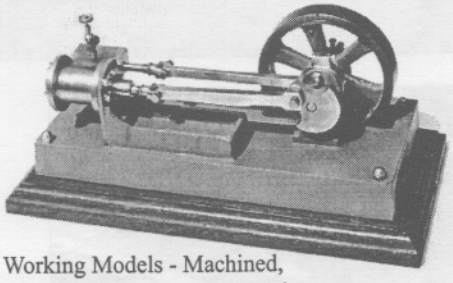

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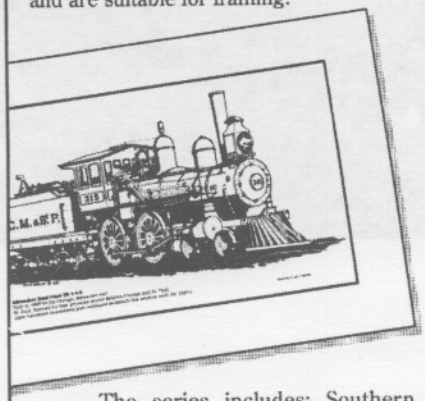

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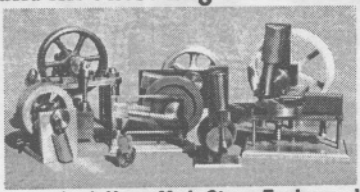

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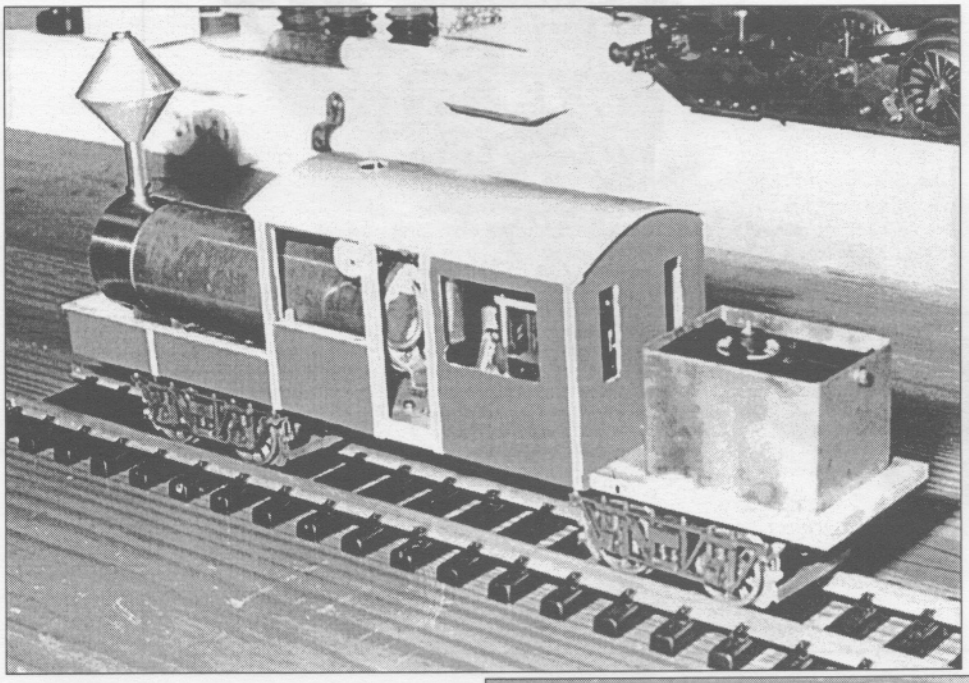
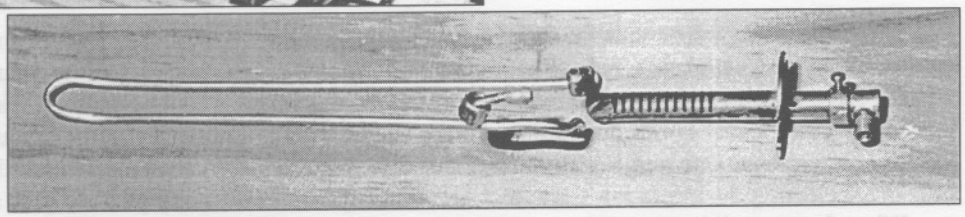
Instant Climax - Part 2

by Keith Manison

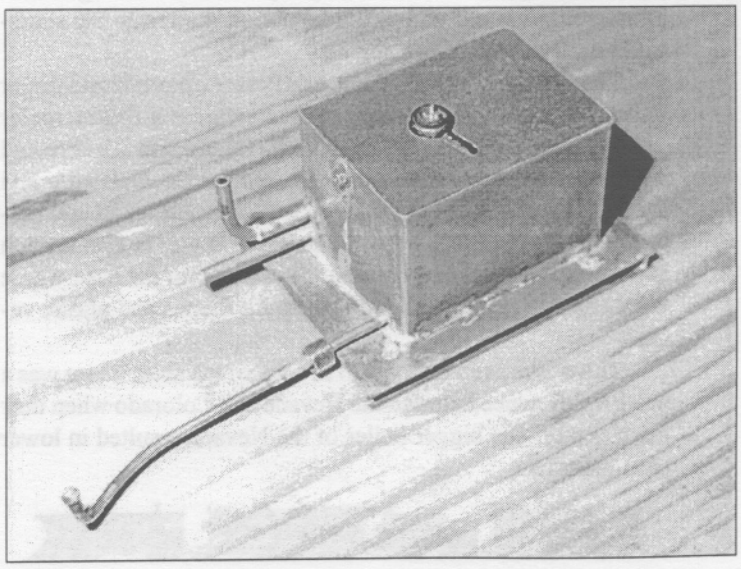
A picture is worth a thousand words...



View of the first cabin in place on the engine. The smokebox with chimney is fitted, but has yet to have its door fitted. In the back ground can be seen the frames of DOT and DIANA, the two LBSC designed gauge 1 engines I am slowly building.



The stainless steel superheater, which failed me at Diamondhead and was removed.

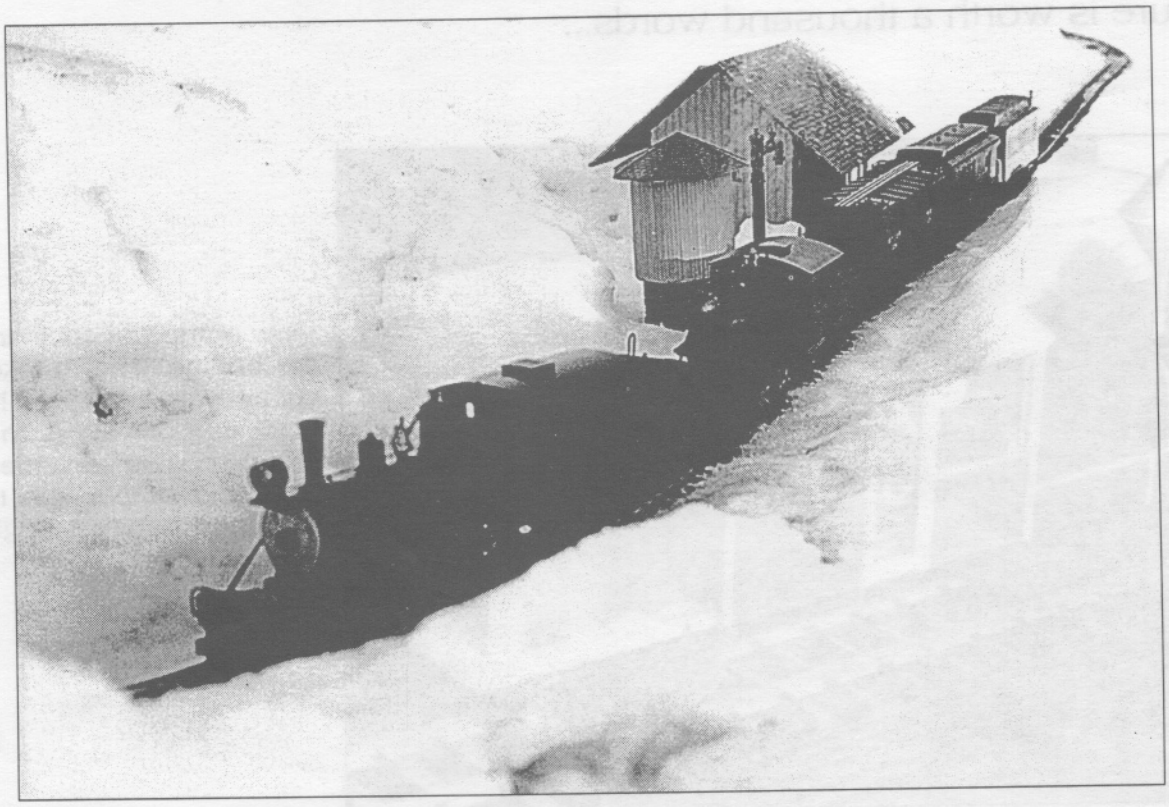


The water/fuel tank. The single pipe on the left hand side of the tank is the butane gas line to the fuel valve and burner. The two pipes on the left form a loop in the bottom of the tank. The idea here is that when running outdoors in cold weather the exhaust steam can be directed through this loop, which will heat the water in the tank and, hence, the butane fuel tank. As I live in the tropics, I haven't a clue why I did that!

Snowbank Steamup

article & photos by Roger Caiazza

See what you're missing?



There are few opportunities for running live steam in the garden during the Central New York winter. We are often downwind of Lake Ontario and that means that we receive "lake-effect" snow that literally buries our gardens for the winter. This year the snows came late and it was actually possible, with a little bit of clearing, for me to run steam on Christmas day.

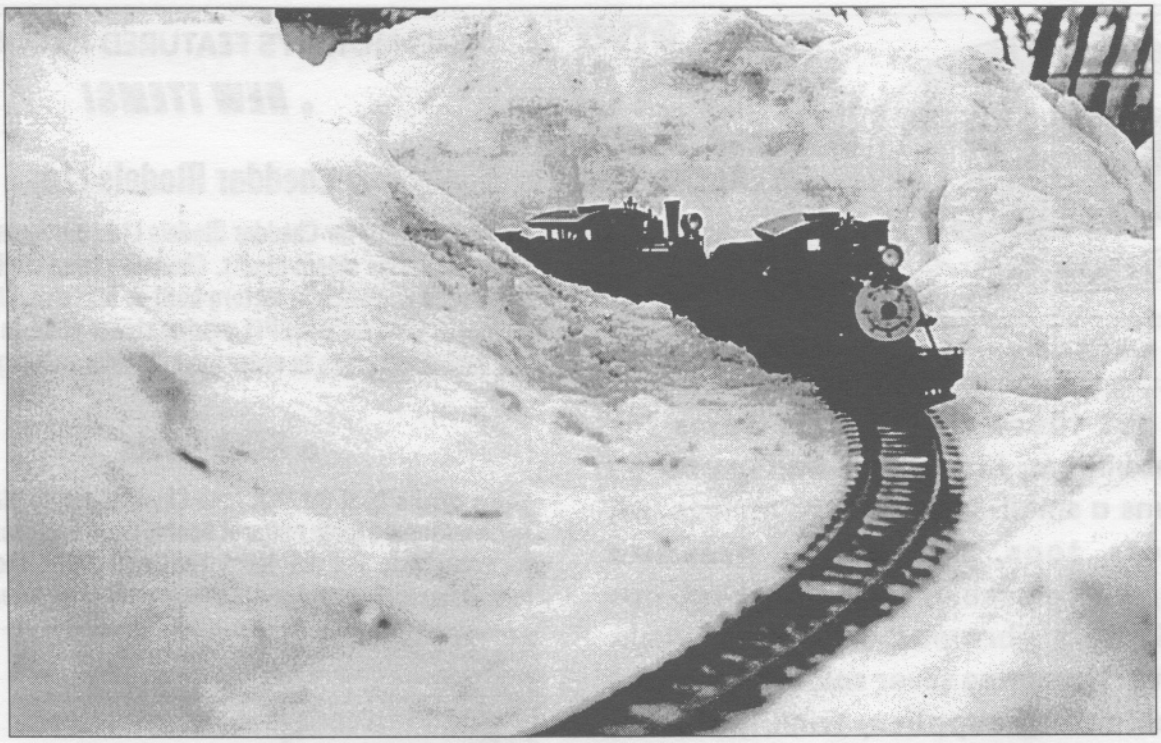
When the snow did come, it came with a vengeance. Measurable snow fell for 18 straight days and the snowfall during that time totaled over four feet. Needless to say, it was not possible to clear the garden railway. In fact the snow was so heavy and deep that I worried about some of our large shrubs and even ended up cleaning those. At that point I noticed that there was nearly waist level deep snow surrounding a couple of bushes that could be converted to a railroad embankment with more shoveling. I had gotten some great pictures of my steam engine running on Christmas day, but wanted to get some more.

The only solution seemed to be a snowbank railroad. Drawing upon a lifetime of shoveling snow and helping the kids with their snow forts, the roadbed quickly took shape on day one. On day two I went out and built the roadbed. Basically I compacted the snow, tried to level it out and dug a couple of cuts for the track. Then I laid down some sectional track and called a couple of other live steamers.

So while some of the Upstate New York live steam folks headed off to Diamondhead to run their steam engines inside, John Spencer, Dick Wyckoff and I had our own steamup...outside in the snow! If you are interested in the next snowbank steamup send me an e-mail address and I will let you know if there are any plans to have another running day. If there is enough interest maybe we could go build a layout on the really big snowbanks on the end of a parking lot.

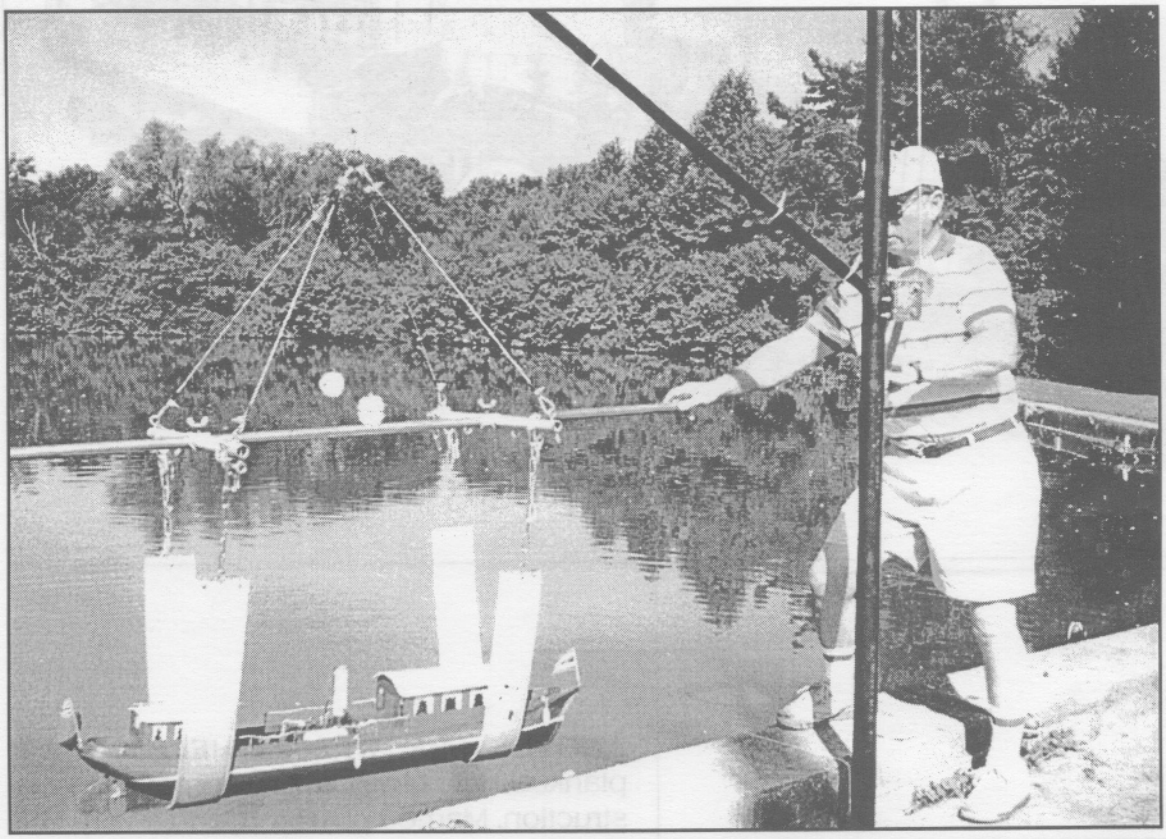
The photos show John Spencer's Pearse Colorado and Roger Caiazza's Pearse Nevada. The consist includes a Delton reefer painted and lettered for the New York Ontario and Western and a Bachmann coach painted and lettered for the Delaware and Hudson. I scratchbuilt the wooden station using wood and Precision Products plastic veneer. The water tower is also scratch built using the same materials and Jig Stones for the base. There is a stone station that was built using Jig Stones and plastic veneer.

The engines ran pretty well in spite of the cold. There was a notable difference between the Nevada and Colorado when they ran together. The bigger boiler of the Nevada resulted in lower steam pressure.

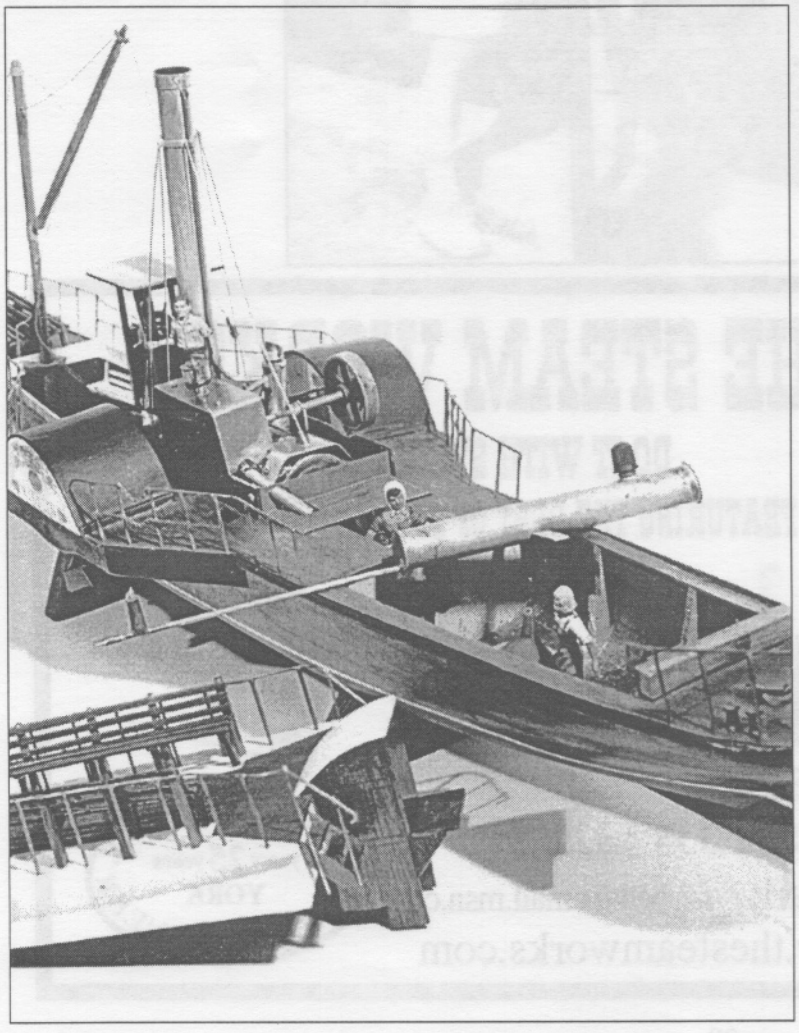


Steam on the Pond.....

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



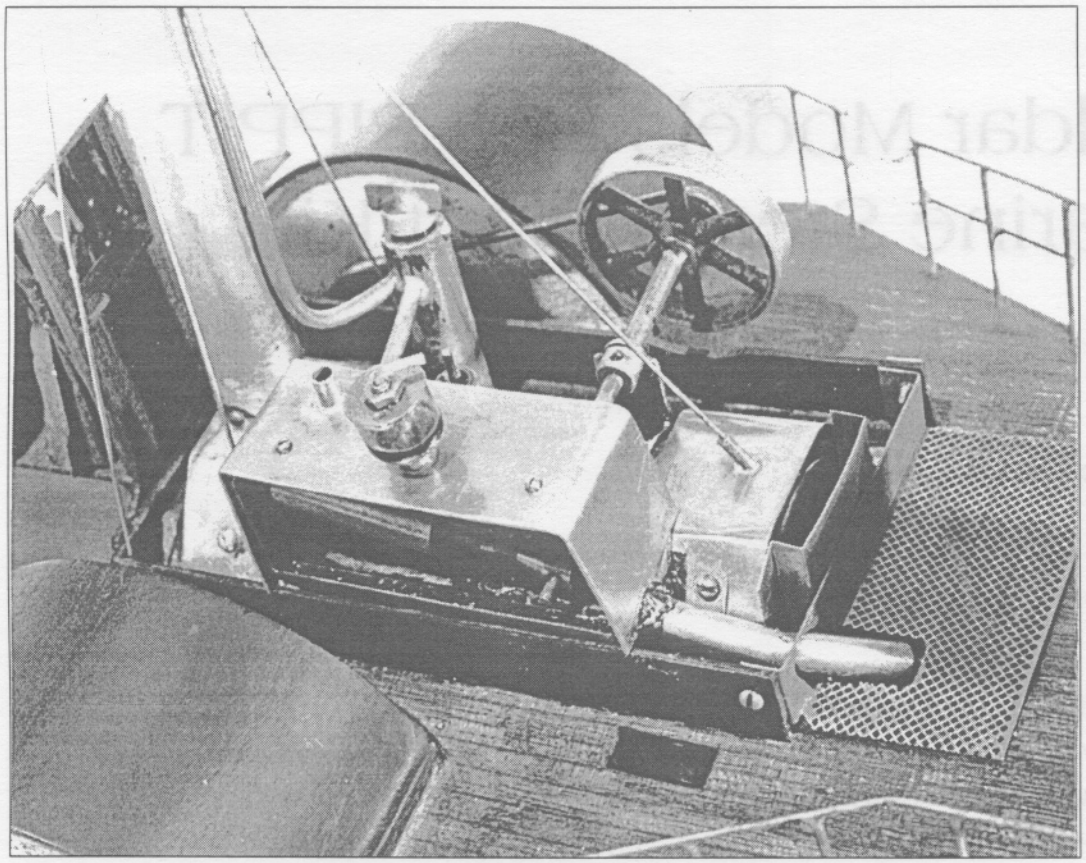
ABOVE: Here's a good example of how to lift a heavy boat in or out of the pond when you have back or knee problems. Bob Verish uses the Valley Forge (PA) Model Ship Society crane to launch and retrieve his steamboats at the club's annual Steamboats Only Meet in July of '98.
photo by Esther Morris



ABOVE: Side Wheeler HELEN, a 33" planked hull, using over 500 nails in construction. Mamod powered, and a very free runner, according to owner/builder Tony Owen (Canada).

LEFT: The crew does maintenance on the meths fired burner. It used to have two burners, but the safety valve was always lifting, so one burner was removed.

both photos this page by Tony Owen



ABOVE: Splash guard around the working bits keeps oil out of the pond. The gunk goes down the tube into a sump in the hull. The oiler is functional...one drip every 45 seconds. The other device with the wing top is an oil trap for the exhaust steam.

BELOW: Clive (aka "Stumpy") is about to give the flywheel a spin on the Mamod oscillating steam engine.

both photos this page by Tony Owen

Cheddar Models Ltd. PIPPIT Marine Steam Plant Kit

by Robert Nowell

Engine Specifications

Cylinder ..... Single, oscillating type
Bore ..... 7/16"
Stroke ..... 7/16"
Dimensions ..... 1.1/4" W x 2.1/4" L x 2.1/2" H

Boiler Specifications

Type ..... Vertical with water legs in flu
Fittings ..... Safety valve & fill plug - threaded bushings provided for attaching optional water glass and pressure gauge - a wood lagging kit with brass banding is also available as an option
Working pressure ..... Up to 45 lbs.
Test pressure ..... 90 lbs. (with test certificate)
Fuel ..... Gas
Construction ..... Silver soldered copper
Price ..... Contact any Cheddar Models dealer (see Cheddar ad in this issue for dealer information)

Those of us who read SitG and do not have the time or ability to turn bits and pieces into a working steam plant, can be thankful for companies like Cheddar Models Ltd.

While spending the winter in sunny Florida I had the opportunity to see some very nice steam boats operating, and once again the steam boat bug bit. In no time I had secured a Midwest Fantail Launch and purchased the PIPPIT (stock #10066) Marine Steam Plant kit. I also purchased the following options: #10101 Pressure gauge - #10057 Lubricator - #10098 Water Gauge - #10119 Ceramic gas burner - #10023 Refillable gas tank - #10046 Wood lagging kit.

I would highly recommend all of the above options, plus one more that I'll talk about later in this review.

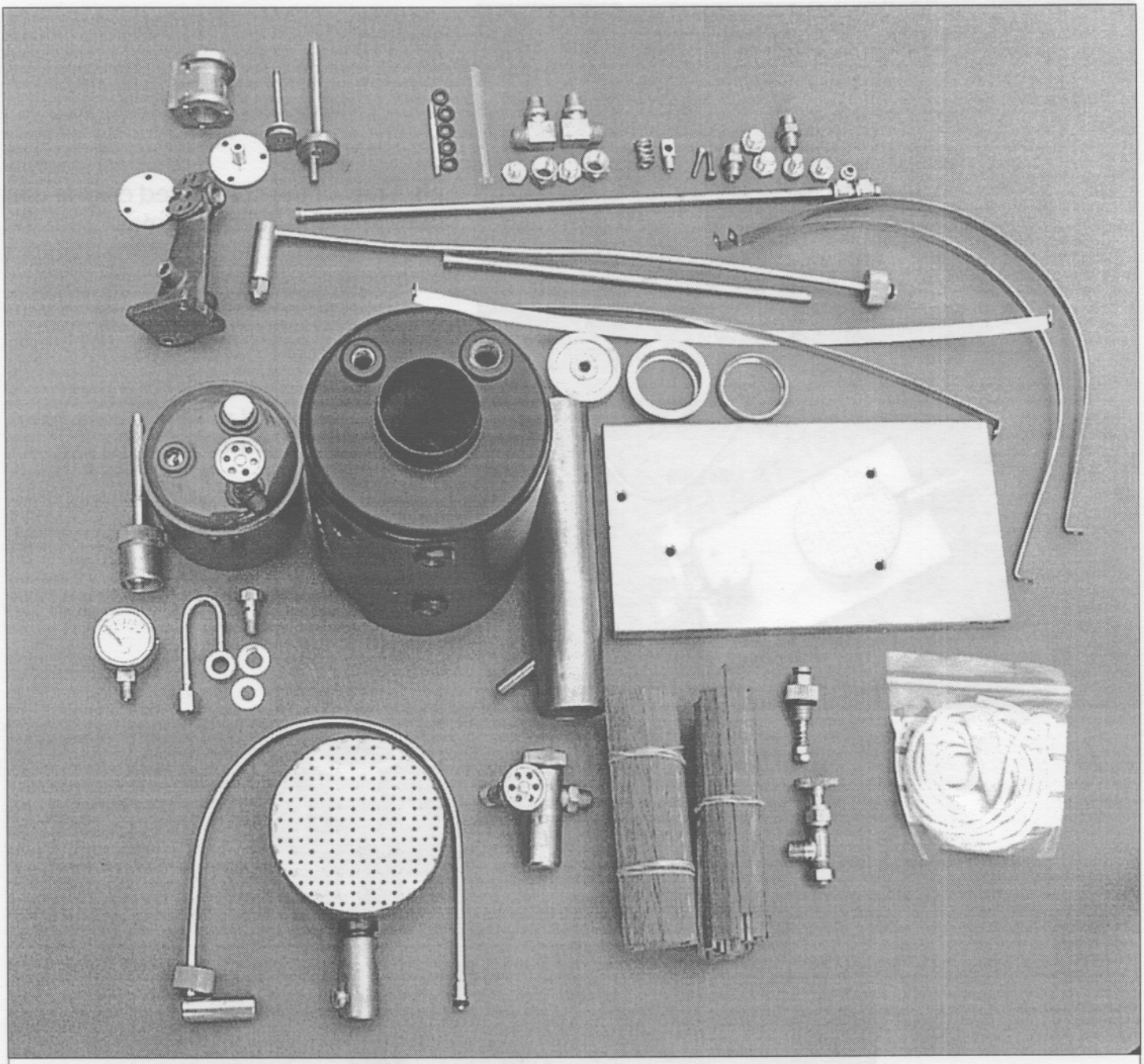
The quality of the material and workmanship in this kit was very impressive. All machine work and silver soldering is completed. Anyone with basic hand tools and a little mechanical ability will have no problem building a beautiful, smooth, powerful steam plant that will move any small hull through the water at a good clip.

The complete engine and boiler could be completed in one evening and ready for testing, but in my case that was not to be. After the engine was partially assembled, I realized that the fitting that connects the piston rod to the crankpin was about 1/16" too long, and was hitting the bottom cover on the cylinder. I am sure that in a few minutes and with a few licks of a flat file I could have corrected this problem, but I felt it better to place a call to England to let the folks at Cheddar Models know about the problem. John Woodroofe knew at once what had happened (a part from a larger steam plant had been inadvertently substituted in my kit), and he air mailed the correct part the same day the phone call was made.

While waiting for the part, (which took just 5 days), I mounted the boiler, fuel tank and burner in the boat. I was not able to use the brass base plate supplied in the kit without making some major changes to the hull, so I didn't use it. It makes no difference in operation whether you use the base plate or not, as long as the boiler and engine are secured in the boat. The plate just makes the job easier.

After the new part arrived it took only minutes to install it and have the boiler fired up, delivering steam to the engine for the first time. The engine started up and ran smooth and quiet...but in the wrong direction for my odd-ball propeller. The steam inlet and exhaust lines had to be reversed to the engine's inlet and outlet port. I soldered an extension piece of tubing in the steam line for testing, and as soon as I get back to my workshop in the Frozen North I will either change the prop or re-pipe the steam line, as what I now have is temporary (and looks like it!) so I could enjoy the boat this winter.

After a second test run of about 20 minutes I found out that I should have purchased and installed option # 10105, Exhaust



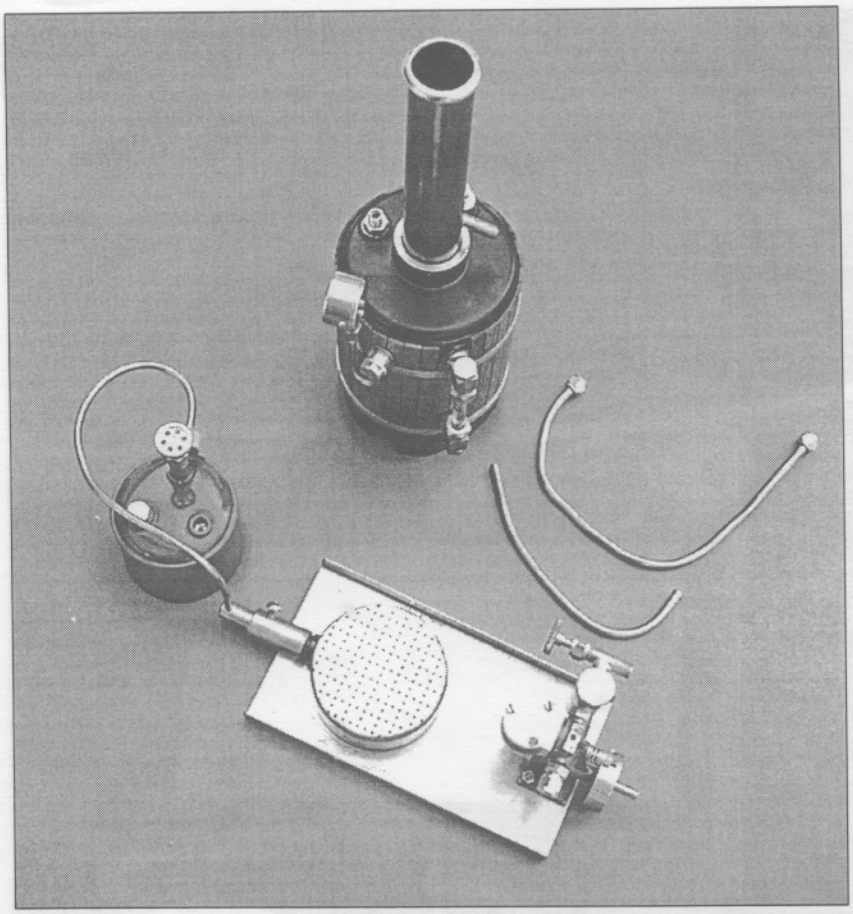
All the kit parts prior to assembly. The parts for each subassembly are bagged separately to help keep track of what parts belong to which assembly.

oil trap, between the engine and the exhaust steam line. The exhaust steam line is run up inside the stack, and the liquid condensate was dropping back on the burner and putting out the fire. Besides the flameout problem, I found that the water/oil condensate was making a mess of the woodwork on my boat. I can live with it on a steam engine but not on a steam launch. Not only does the oil/water make a mess and cause problems on the boat, but what doesn't land on the boat will land in the water you are operating on, fouling the water and upsetting the environment. Those of us operating steam on rails don't give this problem much thought, but I can now see that on the high seas all boats should have a trap if they have a lubricator!

After installing an extension on the exhaust line I was able to have some very nice runs of about 20 minutes before the water level reached the bottom of the sight glass.

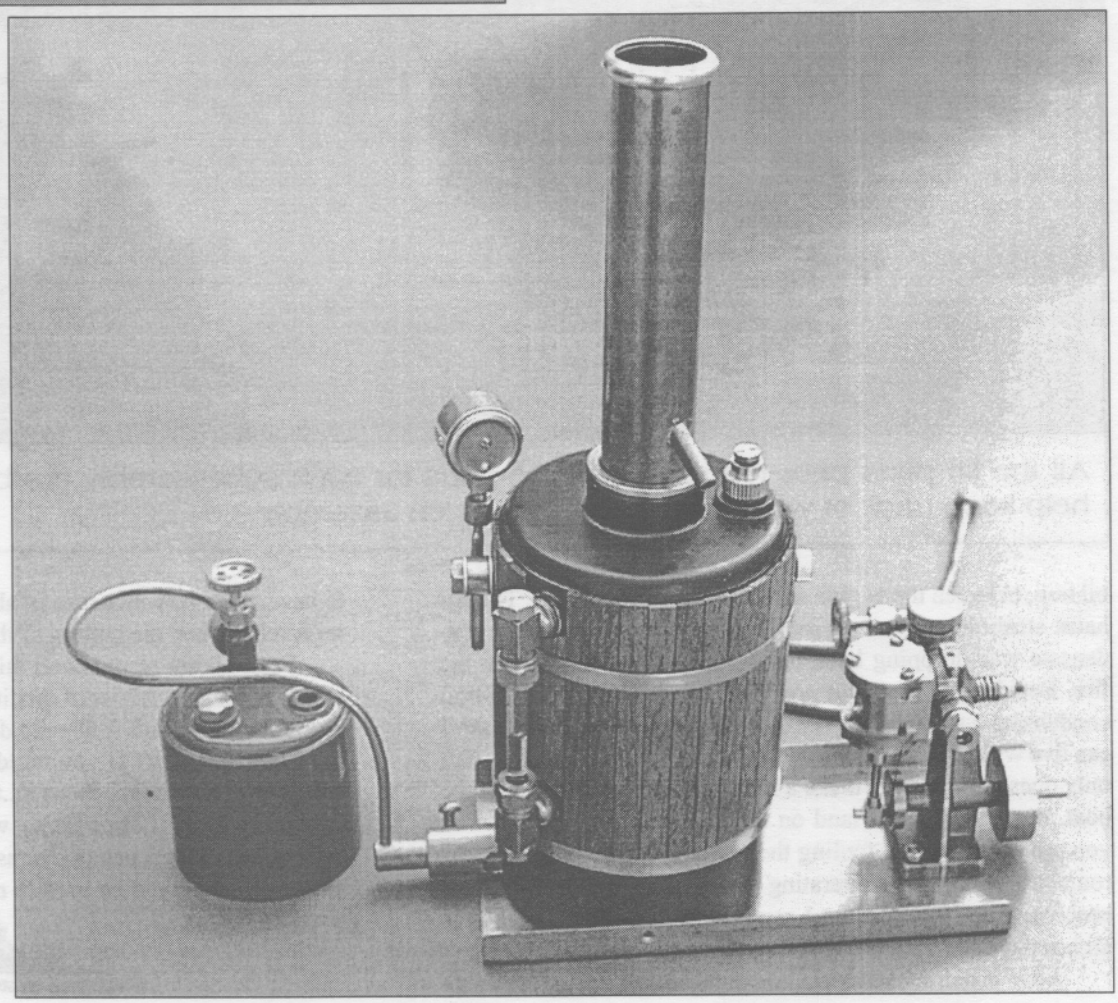
I can highly recommend this marine steam plant kit from Cheddar Models. Material quality, fit and finish are excellent, and all the hard stuff is already done for you.

One final note! If you build or operate steam models...or even if you just dream about it...the Cheddar catalog should be on your bookshelf. They have a wide range of products, including engines, boilers and burner assemblies in kit or factory built packages, that could be used in many different applications on land and on sea.



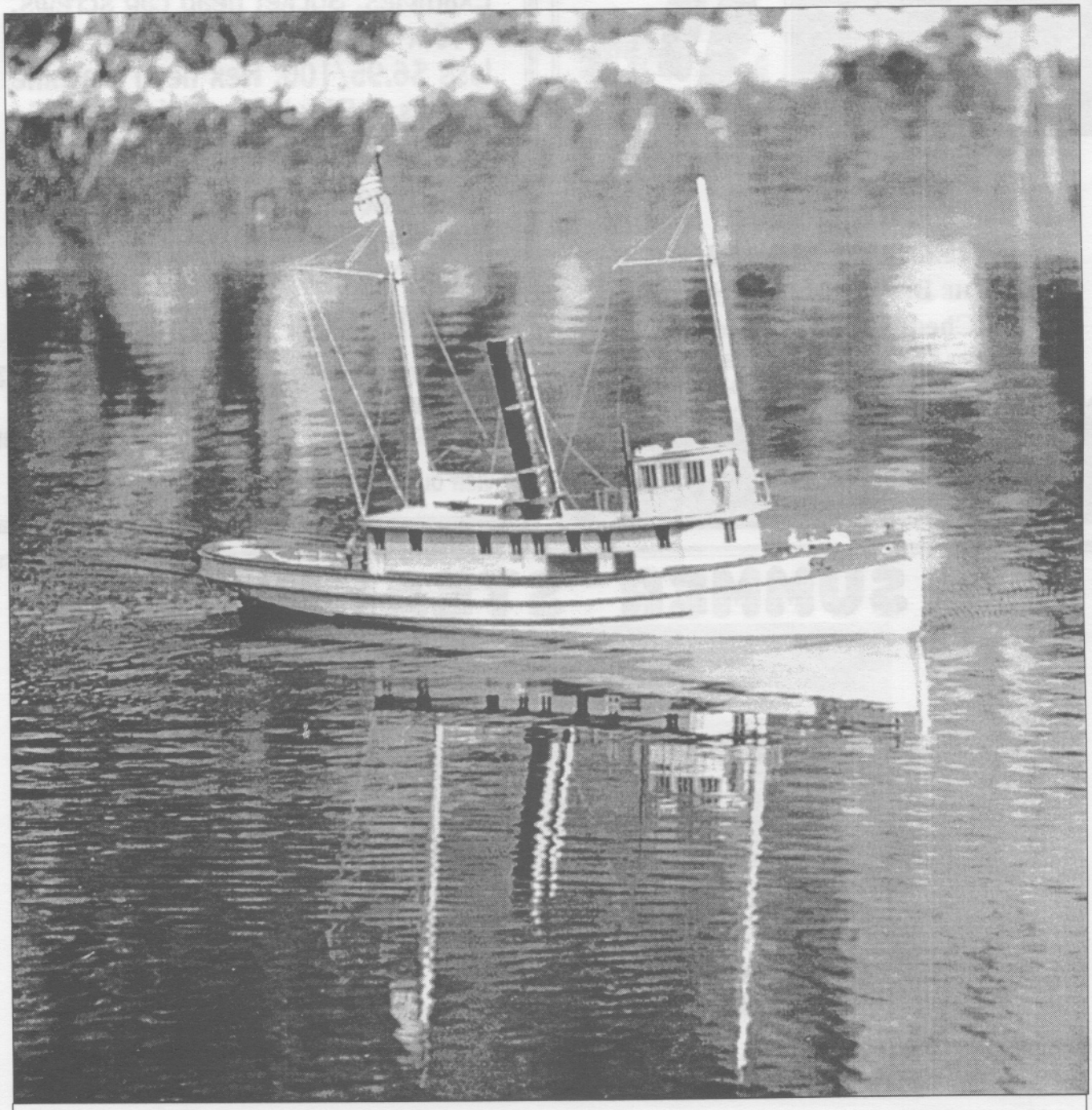
Left: View of the completed engine and boiler, with the boiler removed from the base plate to show the ceramic burner placement.

Below: Completed marine steam plant, ready to install in the hull.



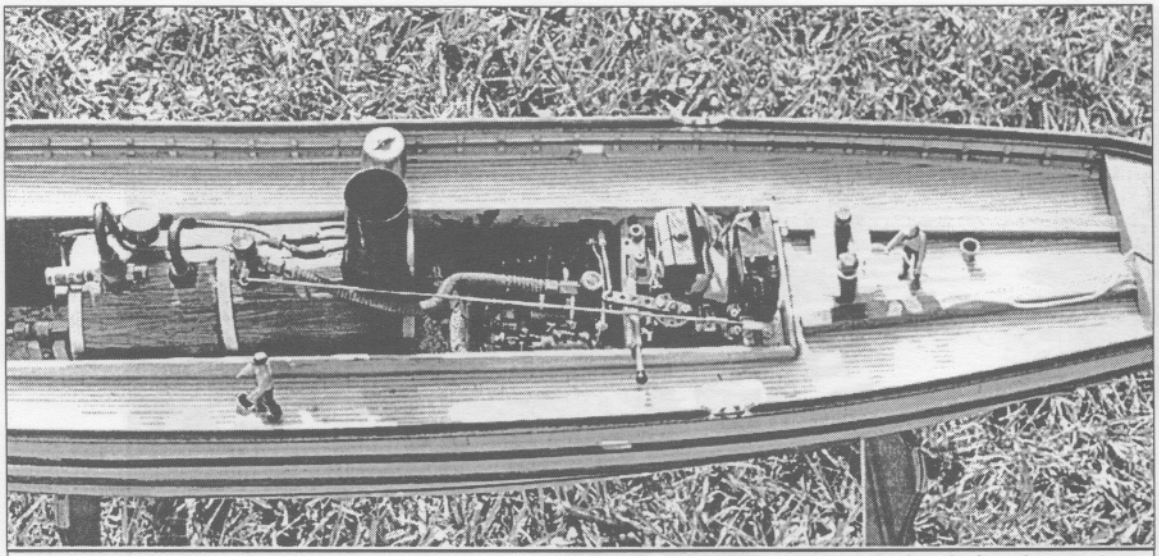
The Re-Activation of the Seguin

article & photos by Bill Ford



The Sequin's reflection shows up nicely on the clear pond at Larry Smith's annual steamup. This is a steam powered model of the oldest wooden tugboat in the USA.

After 12 years in mothballs (displayed on a shelf) the Seguin was reactivated and put back in service. During the storage period, the radio control system batteries were charged periodically but a new batterv pack was required for the receiver. After lubricating all of the moving parts, the boiler was fired and the steam engine roared to life. I was very pleased to find that no further maintenance was required. Living in Florida. we are fortunate to have access to many small lakes

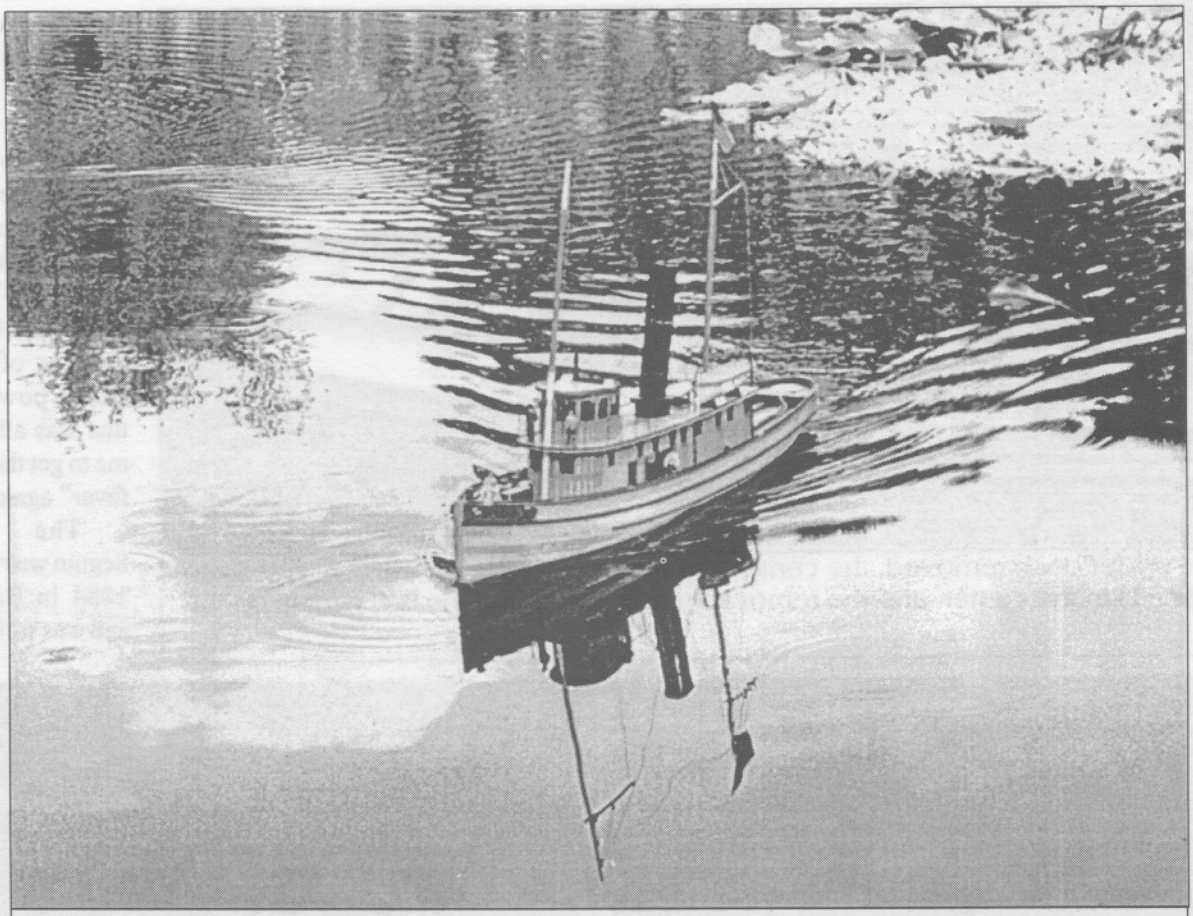


With the upper deck removed, the center-flue boiler is visible on the left. The Saito V-4 engine is in the center, and the removable box containing the R/C gear is on the right.

that are ideally suited for running model boats. My interest in steam was rejuvenated when I met a local group of enthusiastic train "steamers" who invited me to their next steamup. When one mentioned that he was thinking of building a steam powered boat, that was all it took for me to get the "steaming fever" again.

The orighial Seguin was launched in 1884 in Bath, Maine and was well known for

Seguin looks mighty nice on the water, and she answers the helm crisply and accurately.
photo by Ron Brown



The wooden, steam powered tug Sequin creates a strong wake as it plows through the water at Larry Smith's annual steamup near Parrish, Florida.

Builder Bill Ford launches the Sequin for another steam run.

its tugboat activities in the Northeastern waters. After being in service for almost a hundred years, it lay deteriorating at a dock in a small harbor. A matching grant from the Federal Government was given to the Bath Maritime Museum in to attempt to restore it, but its poor condition eventually resulted in all work being termirated

I built the Seguin about 15 years ago from a Midwest kit. It is a 3/8-inch to 1-foot scale model of the oldest wooden steam powered tug in the U. S. The model is made entirely of wood and is 40 inches in length with a beam of 7.3/4 inches and a height of 23 inches. It employs a plank-on-frame method of construction using 3/8-inch white pine planks, which had to be steamed at times to fit the compound curves of the hull. Mahogany was used for trim and decoration on the topsides.

Prior to mounting the top deck, the inside of the completed hull was given several heavy coats of epoxy to seal the any potential leaks in the hull planking. The top deck was made from a plywood sheet which was scored to simulate deck planking. I accented the planking effect by adding thin, black thread to the grooves. A large rectangular hole was cut in the upper deck to permit access to the power plant, which consisted of a 3-inch diameter center flue, butane fired, boiler and a V-4 steam engine made by Saito.

The fuel tank and boiler were mounted on an aluminum plank, which was then fastened to the hull with quarter turn fasteners, allowing quick and easy removal. (See Photo 1)

The engine was mounted in a similar manner, but at an inclined angle to match the diive shaft, which was counected to a 3-blade propeller. A double-ended ball coupler between the engine and drive shaft made for easy engine removal. A separate removable box contained the radio control receiver, batteries and 3 servos used for throttle, steering, and operating an operating steam whistle. The 4-cylinder V-engine provides more than adequate propulsion and the boat performs very well with a running time of about 20 minutes.

The upper cabin fits tightly over a ledge that runs around the perimeter of the deck opening and the operating steam system is completely hidden from view. In addition, an electrical connection is made to extend the radio antenna to wire rigging between the two masts to provide greater operating range.

The entire model was painted with several coats of clear epoxy, and each coat was hand scraped with a single edge razor blade to a smooth, clear finish to show the wood in its natural color. No colored paint was used to retain the natural wood appearance of the prototype.

The Segiun handles very well in the water and even takes small waves without concern. The many, many hours spent in its construction are easily forgotten when spectators comment favorably on its appearance and performance. I find great enjoyment again in being able to operate the boat after so long a period of storage.

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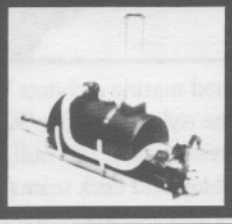

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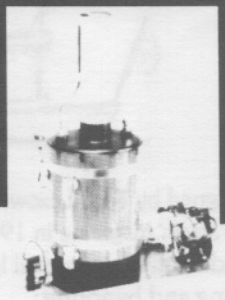

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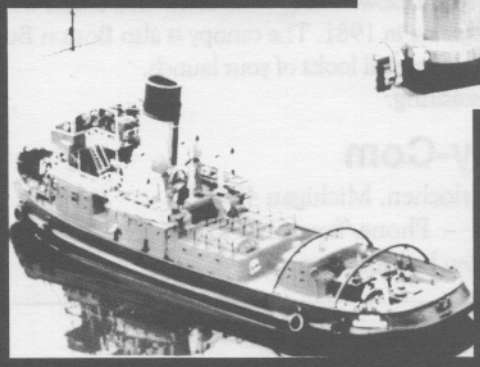

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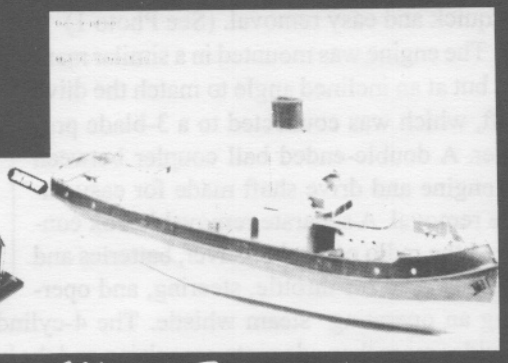

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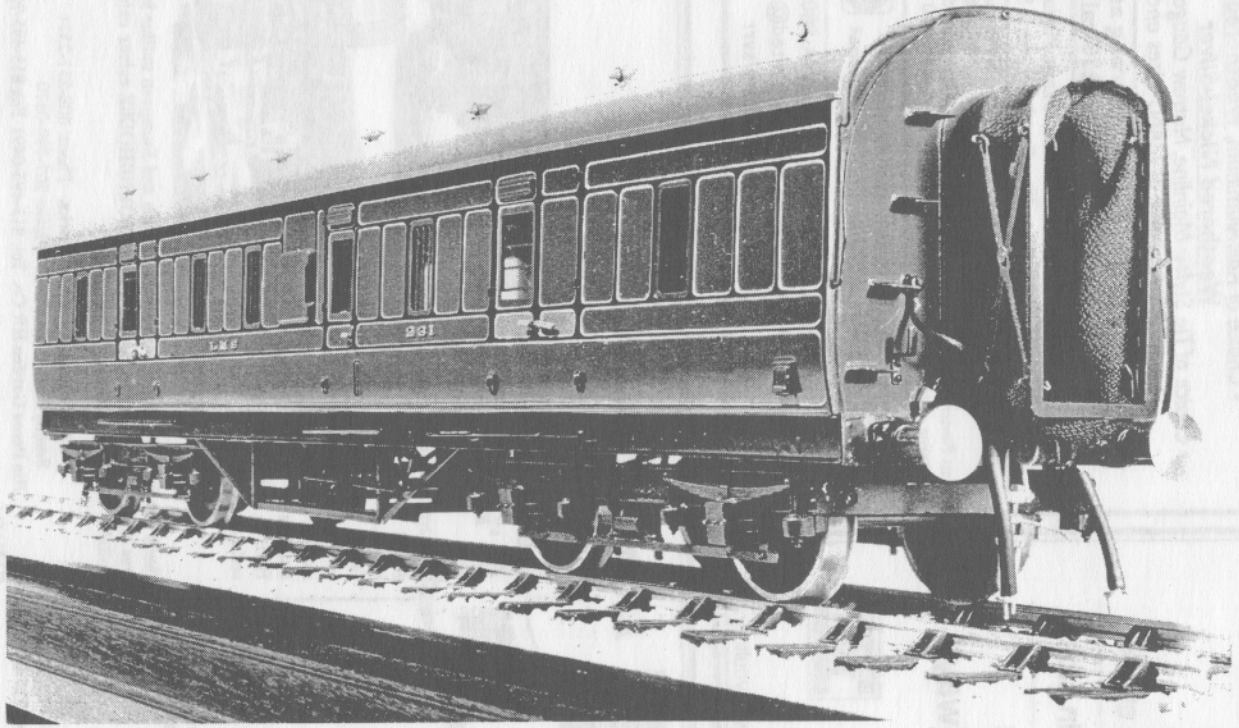

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At a glance specification summary:

- **Length over buffers: 510mm**
- **Availability: April 1997**
- **Wheels: steel insulated finescale**
- **Finish: hand painted and lined**
- **Weight: 1.6 Kg**
- **Material: 95% brass, including roof**
- **Price: £ 660 plus shipping**

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SWAP SHOP

For Sale or Trade: Aster W.M. 3-truck Shay. Rare 1:32 scale electric version. New in box. $5000. Also, new Aster live steam 4-4-0 "Reno". Professional paint upgrade has transformed this model into a stunning mantlepiece or runner. $3000. Allan Starry. (425) 672-3056 or ARStarry@aol.com. (49)

For Sale: LGB rolling stock - #3060 Green 4 wheel truck coach, #3106 Green, #3007 Red (Zillertal bahn). They have LGB metal wheels and are in the original boxes, never been used. Asking $75.00 for the 4 wheel cars and $85.00 for the 4 wheel truck coach (#3060). Ken Parkinson, 915 SE 17th Terrace, Cape Coral FL 33990. e-mail - prrsteamerbulger@juno.com (49)

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FOUND: At Diamondhead....Wada suction fan with initials on rim. If it's yours, ontact Paul Quirk to identify and retrieve. (49)

For Swap or Sale: LGB #3072 Steyertal Locomotive - #3000 Austrian Local Passenger Coach - #3019 Zillertal Railway Baggage Car - #3040 Mixnitz-St. Erhard Railway Coach. Interested in LGB Frank S. or equivalent...make offer. Gerard Connell (215) 338-5612. (50)

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End of the Line

Got Gas?

Those of you who fire your locomotives with alcohol or coal can stop reading right here, and go polish brass or some other useful endeavor. But for those of us who depend on a source of butane gas to keep our little iron steeds in steam, read on.

I was oblivious to what was coming on that day when I gave away my next-to-last cannister of butane to a fellow steamer in need a couple of months ago. No problem, sez I...I'll just pick up a few more cannisters next time I drive past a camping or sporting goods store.

Easier said than done, as I soon found out. After visiting and/or phoning every likely source in Central and SW Florida, I rapidly came to the conclusion that the supply of butane gas, at least in the cannisters we're used to using, is drying up.

Why? That's the question I posed to the manager of the camping department at one of the larger sporting goods stores in this area. He told me that the camping stoves, lanterns and such that were designed to use butane fuel have been replaced by a new breed that use propane fuel. Since they no longer sell the equipment that runs on butane, they no longer carry it, nor can they order it from their suppliers. I was unable to find a single piece of equipment on the shelves of any of the stores I visited that used butane fuel.

If there isn't a large market for butane fuel, then the manufacturers will surely stop producing it, and where does that leave us?

We could use cigarette lighter refills, but they are far too costly for serious steaming, and the filler spouts don't work all that well.

Propane seems like a good idea, but definitely NOT with the fuel tanks designed for the pressures of butane gas. Several steamers I know have been using propane for a long time, but they are either using the propane cylinders available from the hardware or sporting good store, or designing their own fuel tanks to safely withstand the much higher pressures exerted by propane.

If this truly is a problem (and I hope I'm not making a mountain out of a molehill), then we need to address it before our supply of butane disappears completely.

How about it? Live steamers are an ingenious lot, and I'm sure some of you will have some excellent ideas on the subject. Drop us a note or an e-mail and let us know what you're doing.

On the Move Again

By the time you read this, we will have made the trek from Tropical Florida back to the Frozen North and will (hopefully!) be settled in and back to the grindstone.

Hope to see some of you at a steamup this summer, and until then...

Happy steaming!

Ron

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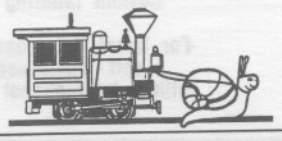

Steve Siegel's Royal Navy Pinnace looks so good in color that we just couldn't resist. For the inside story on this beautiful craft, check the Jan/Feb issue of SitG. *photo by Steve Siegel*

Clockwise from below: CONNIE B, an elegant steam powered sternwheeler by Don Bowes (West Virginia) (see RPO this issue for more info).
photo by Don Bowes

Bill Ford (Florida) proudly holds his model of the steam tug, SEQUIN. (see Bill's article on this fine model in this issue)

Bill Chamberlain (Florida) appears well pleased with his Vest Pocket Climax, which he built from plans by Mel Ridley (England). The Vest Pocket Climax construction series appeared in previous issues of *SitG*.
this and previous photo by Ron Brown

Manx Kittens! Two DJB Isle of Man Beyer Peacock 2-4-0T's. No 14 THJORNHILL owned by Les Derbyshire (England), and No 4 LOCH owned by Dave Pinniger (England). *this and the following photo by Dave Pinniger*

Lynton & Barnstaple YEO, built by John Shawe (England) for James Ritson (USA). Shown here on Bishop's Amble.

Liberty Belle, a new steamer from Brandbright Ltd., blows off a little steam while waiting for orders. (see review of this loco in this issue)
photo by Tag Gorton