

# The Oily Rag!



Real or realistic? article inside

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magazine

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# From the Editor

There is no point in bemoaning the fact that your particular interest in model engineering is ill supported by the TME., or crying into your beer and grumbling that the club is obsessed with miniature railways and public running. If this is how you feel the solution is in your own hands. We have a marvellous opportunity to extend the scope of activities within the TME with our new site. There may seem to be a bias towards large scale model railways in this magazine but that is simply because those are the articles I am sent to publish. The idea of this small engine issue was to encourage discussion among members about building and running smaller locos. Many model engineering societies have branched out into scenic railways. To some extent this is a reaction to the increased cost of public running, largely due to rising insurance costs caused by the activities of the “no win no fee” vultures. Several clubs have abandoned passenger hauling all together. An unfortunate trend which is likely to continue. Most clubs who have built scenic lines have gone for narrow gauge 16mm scale tracks. Ian Turner, the web master of the “Gauge 3 Society” puts a very convincing case for standard gauge modelling. I am sure the TME will build a scenic line some time in the future. We should seriously consider G3. After all we have the space.

Freed from the pressure to build large locos which can be rostered . to lug the public around on Sundays, a significant number of model engineers are “down sizing”. Chris Orchard talks about the joys of running a 3½” gauge “Rob Roy”. Janet Royston, Ray Rolt and Brian Groves talk about their scenic railways. A “no hoper” with an inflated view of the interest in 2½” gauge makes the absurd suggestion that beginners consider building for this gauge.

John

# Chairman's Notes

By David Hartland

At last the virus shows signs of subsiding and hopefully our Club activities can return to some semblance of normality soon. For the moment, though, it is the site at West Buckland which is seeing all the Club activity, and details are elsewhere in this issue. Suffice to say that progress is rapid and if you have not been to the site recently, come soon, because you will not believe the changes. We are planning a few open-air events at the site later in the year. Away from West Buckland, your committee has been looking at the costs of running the Club on a day-to-day business and Bernard is working on some figures to present generally. We will need to look carefully at how we finance the activities. As a snapshot, do you all realise that nearly half your subscription fees goes on insurance for the member activities? This is something all Clubs are facing, whether running for the Public or just for members.

We have been seeing great support from local organizations, notably Travis Perkins, who have donated a quantity of concrete blocks, Aller Engineering who have assisted Dave Wood in the production of parts, and local building sites who have donated surplus materials. Local resident Melvyn Baker



has kindly donated a replica signal box which was dismantled on a sunny Saturday morning recently, and is now in pieces ready for rebuilding on the site in due course. We thank them all, but please keep your eyes and ears open for other companies near you who may be able to help with sponsorship or with direct donation of materials. Let us know if you have any ideas; and on the subject of general fundraising, our small team could do with some assistance so if anyone feels able to help with this then please contact a member of the committee.

## News from West Buckland

By David Hartland

Over the winter the track production line was set up and tried out with a small team, but we are now working regular Thursdays and Sunday mornings on production of the straight track, for which we need around 35 x 20ft lengths. The process starts with the rails being brought into the workshop and sawn to length (photo 1 with Ian Marks) on the chopsaw. Next, the rails are taken to the drilling bench and the fishplate holes drilled. (photo 2 with Chris Warburton).

Meanwhile, sleepers have been cut to length and are drilled with jigs for the pilot holes for the fixings (photo 3 with Ian Marks and Charlie Cox) and the rail clips are formed by press (photo 4 with Pete Clark). Then it is the grand assembly where the parts



Photo 1

come together and are assembled on the big bench jig (photo 5 with Gordon Roberts and Dave Wood). The final result is shown in photo 6. As you would expect, there has been some fine tuning of the technique. The hope was that eventually we would be able to



Photo 2

assemble a 20ft panel in 30 minutes. In spite of much scoffing and ribbing from some members, it should be noted that the fourteenth panel made came together in 35 minutes – and that was just with three members working. We are making very good progress, and by the time you read this we will be on to constructing the curves.



Photo 3



Photo 4

Meanwhile, the raised track has been marked and the intention is to begin the civil work over the next few weeks.

This will use a combination of block walls on sharp curves, and full-size concrete sleepers as beams for the straighter sections of track. There is a large cutting to dig at one end.

John Pickering has been working on the bending rolls to perfect the technique of producing a nice smooth curve without any twist, so



Photo 5



Photo 6

that we can begin making the curved sections. These are more complex, because as every schoolboy knows, the outer rail is longer on a curve than the inner rail. We have a cunning plan which will be revealed when we make the first one.

Out on the track, Mark Hartnell has been busy with his digger in trimming the cuttings (photo 7) and Maurice and his team have been concreting the track edges and making up separate edging pieces for tricky areas.

Perhaps the least interesting but most essential



Photo 7



Photo 8

part of the site work is drainage, and several land drains are designed to cross the site. These are being installed, and photo 8 shows a catchpit excavated and provided with pipes for the drainage from the cutting. This chamber, along with much of the pipe, has been donated by a

local housing contractor, saving the Club a great deal of money.

Low Lewis has been busy over the lockdown making the level crossing gates, which will now be galvanised and will be worked pneumatically in due course.

Last but by no means least, there is the building. The main fabric is complete; we have a watertight structure and thanks to Mark Hartnell we have a roller shutter door on the workshop end and a CCTV security system to protect the site. The building is presently one open space, which is ideal for the track production line, but we are looking now at the work required to fit it out properly as a meeting room, workshop, kitchen and toilets, which is likely to cost around £30,000. We look forward to the day when we have enough money to undertake this....

and turn the structure from a “Shed” into well - OUR HOME.



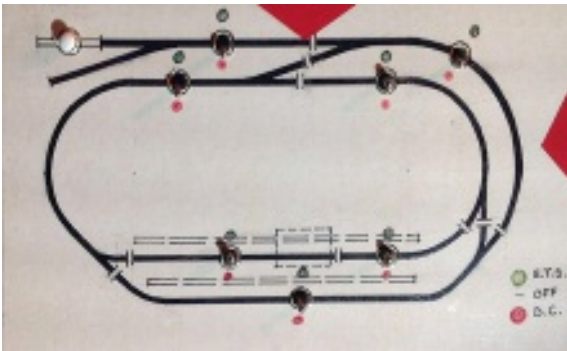
# “Priory Road”

By Ray Rolt

## Concept

This was designed to fit into a Volvo 440 car, with the rear seat still in place, and be assembled by one person. It's primary purpose was for the operation of live steam, but to also be suitable for operation of 2 rail electric locomotives. This was to enable trains to operate while a steam locomotive was being prepared and also allow operation where steam was not permitted. It would also allow operating breaks for the operator, with others running the electric locomotives. It is 8'6" (2.6m) long by 6'6" (2m) wide and largely built using old kitchen fitments!

## Design



To allow operation of manual control live steam, a continuous circuit was required. This meant using curves down to 2'4" (700mm) radius, incorporating Lima points. The track is laid in Peco nickel silver

flexible track. To take off the toy train appearance, a Peco crossover is used on the main viewing face, allowing an extended length of straight track and a bay platform for a two coach push pull unit, and is extended to the baseboard edge to allow future connection to a linear layout operation using electric trains.

These could be operated on the circuit and then stopped on the platform road, to allow the engine to run around the train, which can then return to the other layout.

## **Electrics**

Because most live steam locomotives do not have insulated wheels, all the sections are totally isolated, with individual feeds to both rails. This is achieved by using double pole, two throw switches with centre off position, and eliminates the risk of shorting out using normal common rail system. To this end, all section switches are normally kept in the off position, with sections energised for specific train movements and then returned to the off position again. Two throw switches have been used to allow selection of controller used. This will also allow remote control of a steam locomotive via the track, where insulated wheels are used.

## **History**

To give more interest to the operation of a layout and the sequence of train movements, it is useful to have a fictitious reason for its existence. On this layout, the Wells "Priory Road" station of the "Somerset & Dorset Joint Railway" is the inspiration and hence the name. Here a branch line from Glastonbury to Wells was built for goods traffic and passenger trains, using a push pull unit.

Two other independent stations existed in Wells, on the Yatton to Wells and Witham to Wells branches operated by the GWR. To enable these branches to be joined to form a through route, agreement was reached for running through the S&D station, which separated the other two stations. The link up resulted in a very busy "Priory Road" station with most GWR passenger trains running through at slow speed without stopping, the GWR "Tucker Street" station being retained as a separate station!

Using this arrangement as a basis, the fictional history for the layout was decided upon. The town served by "Priory Road" is on a large, navigable river estuary in the South West. For geographical reasons, the GWR and SR(LSWR) mainlines run further inland. This resulted in a short branch line being constructed by the SR to "Priory Road" served by a push pull train (based on the Yeovil Junction to Yeovil Town branch).

The GWR operated a small wharf, with access to the mainline via a wagon lift (based on the one on the Callington branch on the Tamar). They then decided to construct a port on the estuary to handle china clay traffic. To gain access to this, a link line was constructed between the two mainlines to enable them to run over the "Priory Road" branch and thence via a new line to the port facility. In exchange for the running rights over the branch, the SR were allowed to run passenger trains to a new ferry quay on the river. To achieve this, the existing platform was extended to form a bay for the push pull train, clear of the through running used by the boat trains. An avoiding line was constructed for the use of the GWR goods trains. The SR enlarged the loco shed for joint use (based on Three Bridges Depot). The main signalling is controlled by the SR signal box, with access to the port line controlled by the GWR from the ground frame cabin adjacent to the road bridge. This scenario gives an interesting operation for both operator and public!

## **Scenic Details**

The viewing of the layout is from one end and adjacent side. To create this effect, a high retaining wall along the rear of the viewing side can be fixed to the base board, as can be seen in the illustrations. This incorporates a bridge across the continuous track at one end, with the platform along the front being continued to the end of the baseboard. It was intended to make a representation of

the “Priory Road” train shed at the opposite end of the platform on the curved viewing baseboard, with the end on representation of the loco depot completing the scenic section of the layout. The train shed was never built. The SR signal box and precast concrete linesman hut and the GWR ground frame cabin, controlling access to the line to the river, are cast resin resin kits. The brick retaining



wall is made from hardboard, with the “embossed” face exposed and painted.

When I first started working as a volunteer at Williton shed over twenty years ago, they had open days, which prompted the building of this layout for operating on these open days. These only lasted for a few years, which resulted in the layout never being finished. It was put in storage and only now has a shed has finally been built for it!

# What is gauge 3?

By Ian Turner

Gauge 3 (or No.3 as 2½" gauge was originally known) was one of five standard model gauges recommended by the SME on 1st February 1899. At that time it allowed the construction of model live-steam locomotives that were fairly near to scale. Bassett-Lowke were early importers of Bing & Carette No.3 products and they quickly became the main British source of No.3 locomotives and stock in those early days. Although the early models were originally toy-like in appearance, by 1911 some of the Bassett-Lowke No. 3 model engines were really very sophisticated. For instance, a Gauge 3 LNWR "Black Prince", was spirit fired with cab-lever reversed eccentrics, hand-feed pump and water carrying tender and cost £7-10-0 (£7.50p in new money), which sounds like a real bargain today! By comparison, a Chinese commercially built ready to run gas-fired Gauge 3 "Britannia" would today cost about £5,000 although they have still sold very well.

Unfortunately, in popularity, like all the larger "scenic" gauges (Nos.0, 1 & 2) No.3 declined over time in favour of the smaller tabletop scenic gauges. Of course, the word "scenic" is quite important within this context. Generally, Gauge 3 was not thought of as a passenger-hauling scale in those early (pre-LBSC) days. Whilst the engines might have been capable of hauling a driver, this was generally not how they were intended to be used. There were notable exceptions to this of course. One gentleman enthusiast built a ground level garden railway in 2½" gauge (complete with a covered-in scale terminus) and heroically drove his engine lying flat on his stomach on a specially built low-loader. How stable this was (and how he managed to get up once in the covered station) was not documented at the time. In terms of "free-running" live steam

engines, whilst there was much debate in ME over the years, generally No.3 was thought by many to be too small to pull human loads and too large to let run uncontrolled.

It was Lillian "Curly" Lawrence (aka LBSC) who really fired up Model Engineering interest in 2½" gauge live steam, with his many articles from the 1920's onwards, detailing how "any practical man" could build a live steam engine. LBSC was very keen to point out that he didn't build "model" locomotives. He designed "small" locomotives and close adherence to actual scale was very much a secondary consideration to him. His coal fired 2½" engines were meant to haul their driver on a raised track and they were very much designed with this in mind. During this period, many Model Engineering Societies were established and live steam in 2½" gauge generally made the transition towards raised tracks and driver-hauling. It is this aspect of the gauge that is still supported by the National 2½" Gauge Association today. However, interest in 2½" gauge as the largest of the standard-gauge scenic scales never completely died away and the Gauge 3 Society was formed by a small group of enthusiasts in April 1990. It might also be useful at this point to describe the key differences between the Gauge 3 Society and the National 2½" Gauge Association.

Both the Association and the Society can trace their roots back to No.3 Gauge in that we share a common 2½" gauge. Some simply see the difference between the two groups as being that one community engages in live steam passenger hauling, whilst the other does not. However, there is another important difference. Although we share a common gauge, we do not necessarily share a common scale. Association members build in many different scales, as their 3'6" gauge New Zealand Kb and 2' gauge Toby' narrow gauge designs amply demonstrate. They also tend to favour much larger prototypes to gain the maximum traction possible in this, the smallest of the passenger-hauling gauges.

Gauge 3 Society members however, build and run "standard gauge" locomotives (and stock) generally to British loading gauges. Although originally built to ½" scale, a 2½" track defines the actual scale ratio at exactly 1:22.6. This translates to 13.4867mm or 0.53097" to the foot. For ease, we now quote the scale as 13.5mm or 17/32" to the foot. As "G" (LGB) scale is 1:22.5 ratio (virtually the same) Gauge 3 can be also be thought of as standard-gauge "G" scale. Indeed many G-scale accessories (figures, buildings, lineside fixtures etc) work very well with Gauge 3.



A typical gauge 3 "get together".

So why has Gauge 3 re-emerged and perhaps, more to the point, why should it be of interest to you? These two questions are connected but let's try to deal with them separately.

Perhaps the biggest re-emergence factor has been the renewed interest in garden railways. This has seen railway modellers return to the garden as a great place to enjoy their model railway activities, often with the active support and encouragement of a green fingered spouse. Over the past forty-odd years, this has led to the birth (and rapid growth) of the 16mm movement. G-scale (mainly LGB in Europe) has also provided a simple, ready-to-run entry point to large scale garden railway modelling. However, much of this growth has

been connected with narrow-gauge models on either 32mm or 45mm track, with Gauge 1 being seen by many as the only approach to standard-gauge modelling in the larger garden scales. Gauge 3 is however, very much a viable alternative for the large-scale railway modeller who wants to build standard gauge locomotives or stock. This is especially true if the prototype is to an Industrial or Victorian design, where the overall dimensions can be much less than later, larger locomotives. Smaller engines in Gauge 3 gain some useful extra elbow room over the smaller scales, whether this involves the fitting of inside valve motion, having a viable boiler/grate size or the fitting of self-contained battery packs. As an aside, battery-powered electric engines, plus the extensive use of live-steam locomotives on the same track, probably explains why 2-rail pick-up (with its associated maintenance issues) is virtually non-existent in Gauge 3.

Gauge 3 therefore provides a robust, highly practical and low maintenance approach to a standard gauge garden railway (although there are also G3 exhibition and indoor layouts these days). This may also be a good time to touch on one other important point. Will you need a huge garden to model in Gauge 3?

Well, let us first assume that you want to build your own garden railway (and not everyone does). If you want to run large mainline express trains on your own railway, then you will need ample space, as the minimum radius is probably about 12 foot for larger engines. However, standard gauge railways came in all shapes and sizes, from mainline down to light and industrial lines and every kind of branch line in-between. So the space required is closely related of the type of railway and stock that you want to operate. Gauge 3 live steam 0-4-0 locomotives have been run on a track circle of just five foot diameter. So it is not valid to compare a Gauge 3 Pacific with a 16mm Hunslett and state that you have space to run one but not the other. A G3 “Wantage” style layout and its associated stock would not require any more space than a typical 16mm narrow-gauge one.





A coal fired G3 industrial loco.

However, some Gauge 3 modelers don't even have a garden, let alone a large one. In practice, the situation is quite similar to the average Model Engineering Society Member (with one notable

exception). Most model engineers take their engines along to the local MES track and run them there. Most Gauge 3 modellers simply take their engines (and stock) along to Society Garden Get-togethers (GTGs) to run them. The main difference is that the GTG takes place in the Host's private garden, where the Host owns (and maintains) the railway. There are no Society track maintenance days as such, although Members have been known to lend Hosts a helping hand when asked.

So Gauge 3 has some real advantages in the garden and as garden railways have grown in popularity, these advantages are slowly starting to be recognized. But why should Gauge 3 be of more interest (and better known) to the modelling and model engineering communities? There are a number of reasons.

First and foremost, if you are more interested in building live steam locomotive models than any other type of model and that interest is primarily focused on British standard gauge railways, then Gauge 3 has practical advantages. Gauge 3 engines don't require large machines to build them and even a small lathe can be used to make G3 parts. There is also the potential problem of moving and storing a live steam engine.



A fine part built gauge 3 “4F”.

Even the largest G3 engine can be picked up and carried without too much effort. A boxed engine will easily fit into the boot of a small saloon car and still leave room for other luggage.

Although they are small enough to be portable, a Gauge 3 locomotive provides a very satisfying and enjoyable model. The National 2½" Association have a large and reasonably priced range of castings that are equally usable whether you build for scenic or passenger hauling purposes. There are also plenty of potential G3 locomotive designs to choose from, some more to scale than others, of which the more modern ones are the best examples.

If you need a quicker entry point to Gauge 3 (than simply building a Flying Scotsman or Wainwright “D” from scratch) then Garden Railway Specialists (GRS) pioneered commercial support for G3 and have a wide range of radio control electric locomotives and rolling stock kits. Other notable G3 vendors include Williams Models, Barrett Steam Models, Slaters Plasticard, Walsall Industries, Kingscale, Woodbury Models and Cliff Barker. Bachmann have their “Thomas” range and the (troublesome) trucks and carriages have been popular with G3 modellers keen to acquire some low-cost rolling stock by simply re-gauging them. As I mentioned earlier, Gauge 3 is also compatible with a wide range of G-scale products in terms of buildings, people and vehicles.

Modern technologies are also reducing the cost and effort required

to build a G3 live steam locomotive. The “Venture” is a live-steam, scale LNWR “Cauliflower” locomotive designed using the latest 3D CAD/CAM techniques, with laser-cut, lost-wax cast and CNC



The “Venture”.

machined parts (sourced from commercial vendors) to produce a high quality kit of parts.

Barrett Steam Models produce a twin inside-cylinder 0-6-0 live-steam “J65” locomotive as a RTR or complete kit of parts, with an alternative electric version if required, either of which models would provide an excellent entry point into Gauge 3. For those who want a more basic (but still scale) live steam locomotive, a “4F” (and variants) 0-6-0 tender locomotive design has been developed that utilises commercial Gauge 1 cylinder and boiler units to fast-track the build. Commercially produced locomotive parts, when combined with gas (or spirit) firing and radio control provide a good halfway house between an off-the-shelf model and scratch building. Finally, whilst G3 may be slightly more expensive in materials than G1 to build, it is certainly going to cost much less than a similar 3½" or 5"

engine where the material costs, especially castings and boiler materials, are now noticeably more costly.

So for anyone interested in modeling standard-gauge locomotives and stock, especially in the garden Gauge 3 has much to commend it. Have a look at our web site for more information.

[www.gauge3.org.uk](http://www.gauge3.org.uk)

## Model Engineering or Just Love playing with trains. You decided?

By Janet T Royston

I moved to Bridgwater some five years ago, and decided I would build my fourth and final garden railway, using the experience of 50 years of gauge 1, 7¼" and G Scale. At my age I decided that I needed a line that was not too low and at the same time not on stilts, but something that could also incorporate some landscaping. As the garden has a slight rise towards the back, I decided on a height of 46cm at the patio end adjacent to the house and as I have live steam with manual controls the line has to be as level as possible. The far end of the line is 23cm above ground level.

The line under construction is a single line dumb bell configuration with three 90 degree bends in between the reversing loops, one of which goes round a pond, and the other will feature a rockery. All of the railway uses 4ft. radius curves and points, to accommodate my Aster Shay. ( I have yet to figure out how to insulate the two bogies so it can run with DC power on the track and not blow things apart!)

Yes the line is good old fashioned “Analogy”.

It is my intention to use the LGB block signalling system, where appropriate with what I hope will be as near as possible to correct route signalling. Sections will be 3 to 4 meters in length, and ideal trains will be 2.4m in length, but longer ones will be accommodated.

The raised beds are enclosed in tansalised 9”x 2” timbers, the infill mostly rubble and bricks from a neighbour up the road who demolished some interior walls during a make over. I brought down over a 1000 bricks and 90 barrow loads of other hardcore material to begin the infilling. Once settled a covering of 20mm scalping to fill any gaps and give me a level surface to install the primary cable trunking system, as the line is DC analogue powered there will be well near 200 cables going into the signal box, for traction, signalling and points control.

The line is divided by a path to the top of the garden. A three track bridge fits into place during running sessions, and a foot crossing on the pond raised section



The layout from above



A lot of broken bricks!



Connections in the signal box.



The three track bridge.

allows people to pass to the other side when trains are running.

Track work is all made by LGB of Germany, ideal for outside, with Brass Rail and plastic sleepers. This does present problems attaching wires to the rail, so to avoid using a soldering iron on the brass and melting the sleepers all the wires are attached by bolting them on using M2 solder ring tags that have been attached to the wires that are then bolted to the web of the rail in 2mm Dia holes I have pre-drilled

into all of the track sections. Like wise all the track sections are bonded together with jumper leads with M2 tags at each end. So far some 400 tags have been used.

Testing of the laid track with rolling stock to iron out any electrical faults is then followed by the top surface ballasting using 6mm stone chips, this locks the track into position and allows for levelling of the track and cambering the curves where appropriate.

The main line will be completed this spring, weather permitting and hopefully phase one of the exterior signal box wiring and control panel installed. If we can get this Covid nightmare under control,

it would be nice if I could invite a small group of club members to come and see trains running some time later this year.



And how the line will look when complete.

“Pour encourager les autres”

By John Pickering

There are those who after seeing a magnificent model at an exhibition, will be so impressed, they will return home, setup a workshop, buy all the materials required and over the next 30 years produce something to rival that which they saw all those years earlier. Many with such ambitions will fall by the wayside. Others rather than being inspired will be intimidated and will never cut metal. At a time when the skills which were readily available last century are rapidly disappearing what is required "To encourage the others" and here I am thinking of beginners and junior members, are simple models which can be built with little skill, in an ill equipped workshop, for little cost and most importantly in a short period of time. Nothing succeeds like success! Given adequate workmanship the resulting model has to be attractive to look at and has to meet its predicted performance.

Quite a few designs recommended to beginners simply do not meet these criteria. Any beginner who can build a "Tich" with a coal fired boiler, Walschearts valve gear and all the "blobs and gadgets" is wasting his or her time, unless of course "Tich" is exactly the kind of locomotive they always wanted.

At around the age of six I remember standing in our kitchen one evening as my father pumped furiously on a car tyre pump trying to get his 2.5" gauge "4F" to show some signs of life. Eventually he gave up and I was sent to bed with assurances that all that was needed were a few small adjustments and all would be well. The dismantled loco ended up in one of the many ex WD instrument cases in the workshop and was not seen again for many years. The design was one of "LBSC's" very simple meths fired single cylinder 2.5" gauge engines. The original had been built by "LBSC" as a present for the son of a chicken farmer. To thank the father for giving him and his wife somewhere to stay during the worst of the V1 raids in WW2. When the design appeared in the "Model Engineer" the article was titled "The six year old's 4F". When my son approached the age of six I "acquired" the bits of the "4F" with the aim of completing it for his birthday but it just stayed in the box. I had more spare time as my father's ninetieth birthday approached and the loco was completed albeit with some refinement and presented to him a few days after the event. This is relevant to the current topic since I believe the "4F" and other designs like, it with a few tweaks, are the ideal models to encourage would be model engineers to start to build things.

The engine could not be much simpler. The boiler is sub 3 bar. litre which simplifies the approval and means it only requires a safety valve and a test cock to meet requirements. All the joints are accessible to be remade should leaks appear when tested. In the introduction to a similar design, "SR 0-4-4" based on the Southern railway trailing bogie tanks LBSC claims they can be built "by an



ordinary beginner in a matter of weeks". He actively encouraged builders to embellish the "top works" and to use the designs for the basis for models of locomotives from other railways. The appearance of the completed models often belies the simplicity of the machinery. So these designs tick the first two boxes being simple and quick to build and capable of being refined into reasonable scale models.

As to performance, things are a bit more complicated. The Smithies boiler and its burner are easy to make and with these the "4F" or any of the family will perform well on a gauge 3 scenic line. However despite "LBSC" saying his "4F" had no great difficulty in pulling his weight on a flat car. It is generally accepted that meths fired models are rather marginal when it comes to hauling a live load,



unless of course you happen to be six years old!

For a typical adult short runs on a forgiving track, with a good driving trolley may be possible. But longer runs on a typical club track are more problematic. The problem is not a lack of drawbar pull but the ability of a spirit fired boiler to maintain pressure when the engine is working hard. The calorific value of methylated spirits is much lower than steam coal but more importantly so is its burn temperature, this makes it more difficult to get the heat into the water. One member of the National 2.5" Gauge Association fitted an "SR 0-4-4" with a coal fired boiler to overcome the problem. This loco proved itself by hauling him around the Chesterfield track which is quite demanding for a small engine and shows what these simple designs can achieve with the right boiler

It may seem that moving to a coal fired boiler destroys my case but since all the opposition with ambitions to haul a live load have coal fired boilers already this is hardly fair. The coal fired boiler "LBSC" describes in the "Rose" series would fit the other members of the family with minor changes such as the length of the barrel. This is one of the simplest coal fired boilers for the novice to build and would be one of the cheapest boilers if built by an outside specialist. However at this size the Smithes type has more heating area than the locomotive boiler and has good water circulation. If fitted into a casing which keeps the hot gases close to the boiler and with a good layer of lagging to minimise heat loss it could be the more efficient of the two. The problem is the feeble heat source. A beginner who likes to tinker could experiment with gas firing. The "4F" came back to me after my father's death and would make a good test bed. A brief search on the internet and some back of an envelope calculations suggest it should not be too difficult to get the required performance using camping gas as the source.

Finally, please do not run away with the idea that 2.5" gauge is only for beginners.

This is by far the most versatile of the miniature railway gauges, covering everything from the tiny exquisitely made models of Victorian standard gauge prototypes running on period scenic lines to massive narrow gauge engines quite capable of holding their own among the 5" gauge engines on an elevated track. Both the Gauge 3 society and the National 2.5" gauge association are seeing a steady increase in membership this is definitely a gauge for the future not one in decline.

## “Rob Roy”

By Chris Orchard

Immortalised in written word and on the silver screen, Rob Roy is to many a “Scottish Robin Hood”. Born “Rob Roy” MacGregor on the northern shores of Loch Katrine in 1671, during his life he was a soldier, a clan leader, a castle raider, an outlaw and ultimately a folk hero.

In the 31st May 1934 issue of the ‘Model Engineer’ magazine, the then editor Percival Marshall introduced the “Sarawak Trophy”, presented by a Mr. George R. Stevenson. He wished it to be offered for a first attempt at locomotive building at the Model Engineer Exhibition of that year, “L.B.S.C” kindly offering to prepare a suitable design. But as there was already another prize of a similar nature, it was agreed to award it to the best engine from that design at the following year’s exhibition (1935).

Following Mr Stevenson’s specification, “L.B.S.C.” started the design of a 2½ inch gauge 2-6-0 coal fired locomotive in September 1934. He named it “Dyak”. The Trophy was subsequently awarded to a Mr R.S.E.Hill for him to keep in perpetuity.



“Rob Roy”

Mr Stevenson and Mr Hill were both members of the Norwich society.

In the 19th January 1961 issue of “ME”, the late Martin Evans made reference to the Sarawak competition and at the request of the editor, introduced a new one. For the prototype he chose McIntosh’s 498 class, an 0-6-0 dock shunting tank locomotive of the Caledonian Railway, twenty three of which were built at the St Rollox works starting in 1911. The closing date for the competition was expected to be in July 1962 and the prizes were intended to encourage beginners in locomotive construction, who were invited to enter their models at the Model Engineer Exhibition of that year. The construction serial ran from 16th February to 21st December 1961.

The closing date was eventually set for July 13 1964 and the judging of the four engines entered into the competition took place at the Model Engineer Exhibition of that year; the winner was Bertie Green. Third place was awarded to Tony Dennis of Minehead who’s engine was reported as being realistically finished and appearing sound in every respect.

The design proved to be popular and over the years “ME” reported examples being built in many countries. It is a rare model engineering exhibition that does not find one or two examples on display. My own example was started by a friend in the early 1970s and I completed it in the late 1980s. Initially it was a disappointing performer, alterations to the fire grate, the firebox door and smokebox draughting making very little difference. It was put to one side for a long time.

In October 2015 two articles appeared in “ME” that dealt with rosebud grates, their history as a means of dealing with poor coal from one particular mine in America, and their application to model locomotives. More articles followed, one describing the winning of the “LittleLEC” competition with a “Rob Roy” locomotive fitted with a rosebud grate.

This is my first attempt at fitting a different design of grate to my “Rob Roy”, which transformed the boiler’s steaming capabilities. It was now a joy to drive! A subsequent alteration, simply drilling more holes equally spaced between the first lot, made things even better. And what started all this



The Rosebud grate

discussion in “ME”? Why, a mention of our very own John Pickering’s fitting of a rosebud grate to “Salome”, his 0-4-0 locomotive in Club News in January 2014.

With my renewed confidence in keeping a small loco in steam rather than being the one who held everyone up on a circular track,

I decided to branch out and attended the “Rob Roy” Rally in 2016 at the Andover society’s track. This rally had started in 2012 as a “Rob Roy Day” when it was realised there were several examples in the club. And that year was the 50th anniversary of the design’s publication.

I have attended them all since and each time enjoyed the very pleasant and knowledgeable company. Andover have the use of nearly forty acres of woodland (provided they occasionally let the local lord in to shoot wildlife!) in which they have an extensive



Photograph by Jane Horsfield

ground level 7¼” and 5” gauge railway layout together with an interesting and well built raised track. This was the line-up at the latest rally to be held, in 2018, with nine locomotives present, not all of them in steam.

All in all, a neat easily handled locomotive with the capability of hauling a few passengers on an easily graded track. A straight forward design (not without its errors!) and not too big a boiler making silver soldering relatively easy. It deserves its popularity.

# Project 21

By Bryan Groves

The photographs show a disused fishpond in my garden that would easily accept a raised garden railway. The depth is around 4ft. the proposal is to cut an access in the brickwork and install a short ladder onto the concrete floor area, which already has small drainage holes to prevent

flooding. The top surface will be covered by 18mm exterior grade plywood with edges reinforced with 50 x 25 tile batten to prevent sideways movement, to form the track bed. The opening in the brickwork will be fitted with an appropriate lift-out section to complete the circuit. There is a raised area at one end



which will be ideal as the “pits” and in the adjacent spacious covered area we have mains electric and mains water supplies. Perhaps ideal for Club social events?

The area is a considerable distance from my back door, uphill into the garden but a concrete footpath leads from the frontage car parking area to the covered area, so carrying heavy items is unnecessary

However, my knowledge of small scale garden railways is absolutely nil. I would like to consider the purchase of suitable track, locos and rolling stock, especially if a competitively priced!

I would be very pleased to hear from club members who can give advice on the most suitable gauge and brand to consider, especially if they have personal knowledge on setting up such a system. If and when the current Covid 19 restrictions are fully lifted I hope to visit suitable events before making any final decisions.

Bryan Groves 01297 32134 or email - insteam@hotmail.co.uk

## OF SHIPS AND THINGS

BY FIREMAN MN RETIRED

Somehow, I got myself home and first of all mother said "You're drunk!" "No", I said, "It is worse than that", piling it on, "I think that I am dying". She did concede that I did not look too good.

Next morning, I woke up, neatly tucked up in bed but still feeling that I wanted to die in peace. Mum said that she was going to call the doctor, despite my feeble protests. The doctor was a West Indian about 6'6" tall and half as wide but he was so gentle. When as boys, we said that he was a Witch Doctor. Those were the days.

In 1944, I had a nasty gash on my knee with lots of blood for effect. One of the doctor's young daughters looked at it and asked if it was a "berm" (bomb) injury? After he had finished stitching it up, mum paid the doctor half a crown. Those were the days.

Back to the story, the outcome of his visit was that I had Asian Flu which was rampant in Europe at that time. I must have picked it up at that "clinic". Luckily, we caught it in time and an injection of some sort and a course of pills with some bed rest put me to rights.



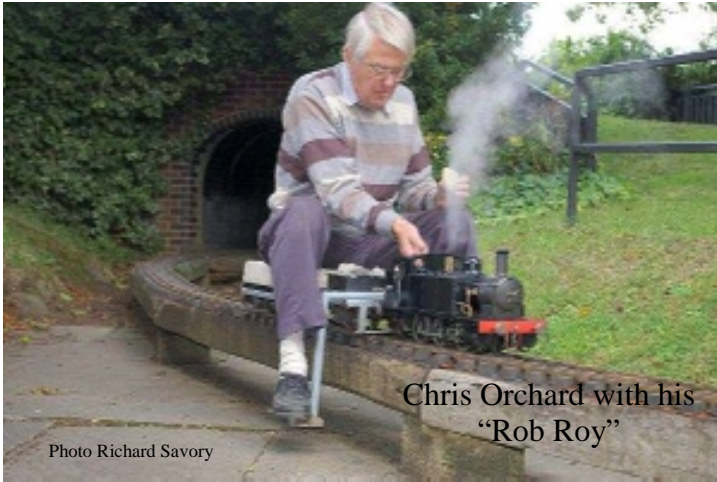
Meanwhile, mum had sorted through my bag, looking for any washing to do - it's what mothers do. She found the official looking brown envelope which I had completely forgotten and what a surprise that was. Tom and Gwen had never had any children of their own and they had decided that they wanted to formally adopt me and put me through a Medical School together with a few other perks. All the paperwork was there and it just needed a couple of signatures.

To say that I was gob-smacked was putting it mildly but by the time that I reached Mombasa the deadline had passed in any case. Realistically, I don't think that sort of lifestyle would have been me so that was another of those "What if" moments to speculate on.

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Chris Orchard with his  
"Rob Roy"

Photo Richard Savory



The "Ninety year old's 4F"



Alice and Pearl  
A tail piece  
Courtesy of  
Andy Probyn