

Reading Society of Model
Engineers
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Charity Number 1163244



President

Les Dawson

0118 969 4654

Trustees Chair

John Billard

01189 340381

07834 998971

Secretary

Peter Harrison

07920 833546

Editor

John Billard

john@jegbillard

.plus.com

Free to members

The Prospectus

February 2021



Up Goods at Kennet Bridge Reading, Hall Class 5925
Eastcote Hall. Photo Jack Crawley courtesy Andy Midwinter

**WHILING AWAY...
BUILDING A CLASS 4
CRANLEIGH DIORAMA
ONE IN 43,000
CLAUD CONSTRUCTION**

A VIEW FROM THE CHAIR

John Billard

It is said that the sky is darkest just before dawn and with vaccinations under way lets hope that the first rays of the sun will shine brightly. In the meantime following the success of the Zoom meeting in December we are going ahead with a further presentation that may have happened by the time you read this. Our thanks to Alasdair Milne for pushing this forward and those members who have so willingly buffered up behind to give it a shove.

In the model engineering world there is a silver lining in that the suppliers, on who we all depend, have been very busy on mail orders. This Prospectus contains the fruits of many hours at the bench.

Some of our club stalwarts have not been too well recently including Alf and secretary Peter. I am pleased to hear that thy are recovering and I hope this applies too to other members who may not be on top of the world at the moment.

SOMETHING TO WHILE AWAY THE LONG EVENINGS

by Terry Wood Part 2

The next problem was how to find out whether or not it would pull someone along so I had to build some kind of trolley to put behind it this turned out to be a heavily modified wheelchair that I found in a waste bin by some garages near me. I removed most of the wheelchair until it was just a small platform with 4 wheels on it I then laid on it and connected a compressor to the boiler using a air line nozzle. To get the engine started I also had to spin the fly-wheel at the same time which was a bit awkward because as I done so the airline nozzle would fly out of the boiler water feed. After a few attempts I was amazed to find that the engine did pull me along if only for a few seconds. So I had the makings of a potential working model whether it would pull me along under its own steam and have a great enough range is a different matter. *To be continued*

Photos Terry Wood



IN SHOPS THIS MONTH

Building a Class 4 Tank

by Nigel Penford

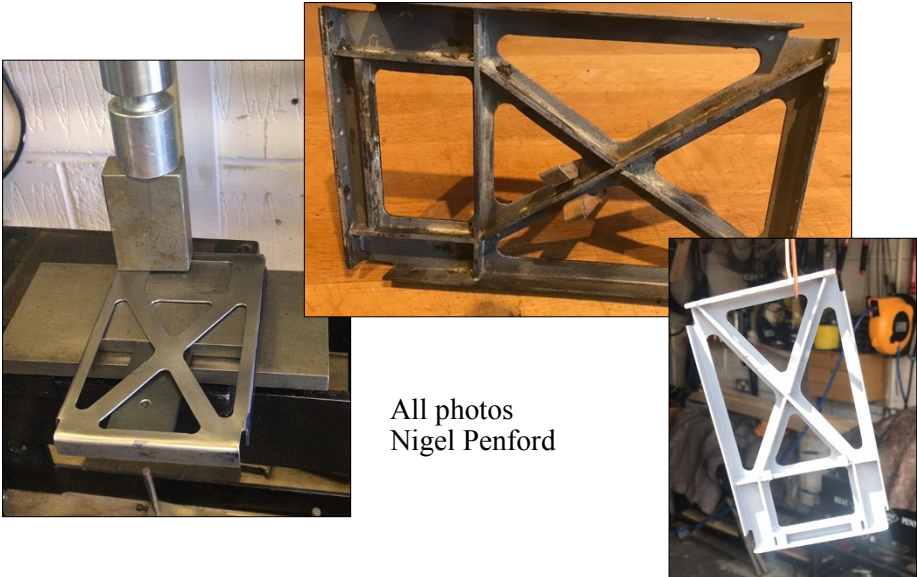
Last year someone wrote in *Prospectus* that lockdown was a spur to finishing a project that seemed to have kicked off contemporary with Noah preparing general arrangements of The Ark. Not quite that far back, but 2001 to be specific, and the project is a 5" gauge model of a BR Class 4 tank loco. Earlier building ceased as I came to terms with a house move, a 5" 9F, a 1500 tank and the ever-present demands (until lockdown, of course) of my 0-6-0 Baldwin loco, Helen.

The 4MT engine is being constructed to the drawings of Doug Hewson, who built a similar engine and serialised the process in "Engineering in Miniature", although I'm not certain Doug ever got his locomotive running.

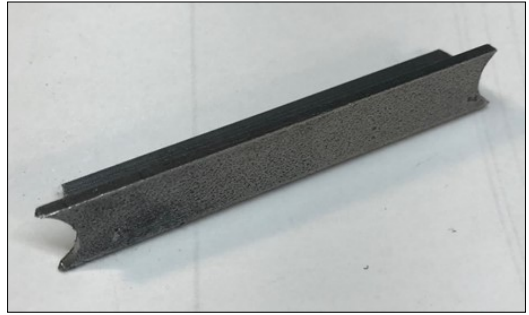
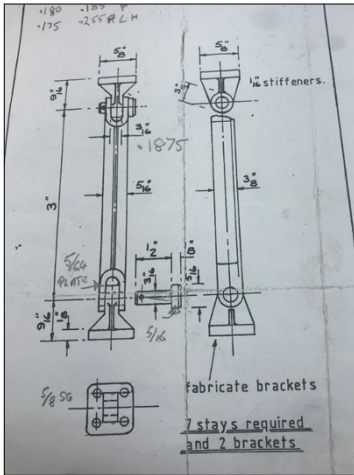
Will I, that is the question?

I purchased castings from Doug and some small sub-assemblies, such as the smoke box saddle parts, from Model Engineers Laser based in Doncaster. Apart from these few items, the rest of the work on the chassis has been scratch-fabricated: the 3mm thick frames were milled and drilled on the Bridgeport, the frame stays were milled from the solid or assembled from machined parts and then silver-soldered, the frame spacers were milled and bent from sheet and the horn blocks are castings with gauge plate faces machined in situ to get parallel operation of the axle box pairs.

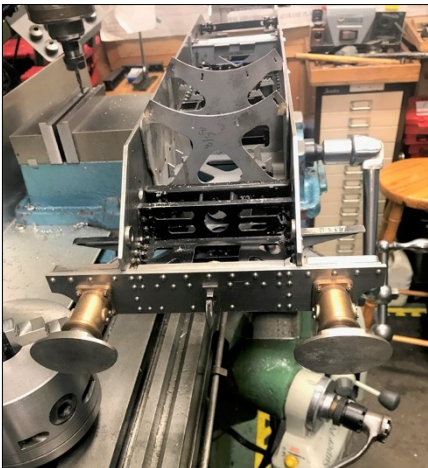
As the model follows very closely the prototype you can imagine it is a big job and I include some photos of the progress of work to date.



All photos
Nigel Penford



Left and below—making the stretchers
Bottom—nearly completed frames and
running gear



CRANLEIGH VILLAGE and the SOUTHERN RAILWAY

Down Memory Lane by Tony Roberts

The Village

The village of Cranleigh is today an active community. History records that it flourished from a humble clearing in the ancient Wealden Forest. The name Cranleigh is said to derive from the old English Leigh. The old spelling of Cranley was changed in 1867.

Pre-WW2 George married Nellie, my mother's sister. They moved to Cranleigh, when George was offered the job of the senior gardener at Cranleigh School and lived in a cottage in the school grounds.

As the war developed, George joined the army. He served in the desert, recovering tanks and other salvageable vehicles. Whilst George was away, Nellie and their son moved to the gatehouse of Winterfold Lodge. Winterfold House was now a busy military HQ with constant traffic moving up and down the bushy lined drive, that in the spring was a floral array of rhododendrons.

My mother and I went to live with Nellie in early 1944. Because of the distance to the local school, I was collected each morning by a very large school car. But I always walked home. I then went up the drive to my favourite fir trees and from there watch on numerous occasions a yellow Tiger Moth land in a field close to the big house.

Then, one morning, there was large convoys of trucks driving down the lane, on through the village and beyond. The HQ closed and all the adjacent troops moved away, and the villagers heard that they had all gone South, probably to prepare for the much talked about invasion.

D-Day did take place on 6 June and it was not long after this that Hitler started to send over the V1 flying bombs, and we soon found out that Cranleigh was well and truly located in the notorious ' Buzz Bomb Alley'. We were now in the thick of constant air raid warnings as these 'Terror Weapons' flew overhead on their way towards London, but for us, not all of them made it that far. One V1 chose a Sunday morning to demolish our school, so it was indeed lucky that this left a village full of children. But, instead of 'holiday time', we were very quickly organised to out-stations for lessons and I found myself in a class in the village hall.

As far as we children were concerned, this was all extremely exciting, as we had a large playing field just outside the hall, and in the parking area army vehicles, a huge static water tank from which we could catch newts and frogs, and best of all, an active railway line which carried odd shaped military loads from Guildford to Horsham on the Southern Railway line.

The diorama

The construction of this diorama was intended, in the spirit of model making, to be built with my own tools and facilities, as much as possible. I started with a sheet of building insulation board 2.4 inches thick. I removed the silver

aluminium top surface, to provide direct adhesion for the surface coatings and models. The board measured 23.3/4" x 17. 7/8" to ensure when encased with brown cardboard, it would be just under the required size.

The stream was cut directly into the foam, all top surfaces covered in fine sand. Using various scatter, the stream and all other surfaces were marked out and defined, the stream being gradually built-up with grit and 'Realistic Water'.

Peco track was laid on a foam base, the railway line being marked with fence posts cut on my band saw. I made a jig for drilling the holes, which when inserted in the permanent wayside, were fitted with model aircraft wire to simulate the essential fencing, which would feature in the diorama story.

The bridge sides and pillbox were found in the spares box, together with other useful items, and the small crossing and goal posts were made from scrap. The static water tank was made from a tin of ham, which had provided a much-needed lunch break, before receiving the realistic water treatment.

The other main feature is the Cranleigh Village Hall. This was scratch built with the help of a bird box from the local hobby shop. A great deal of modification was involved with various papers and my own wood strips, windows, and doors, were made from cartridge paper and felt pens.

The essential people and animals were from various companies, some of which required modification and painting. The model vehicles are all professionally made, except the Airfix Sherman Tank that I built from a kit and is in keeping with the actual story. The locomotive is a Hornby model of the Bullied Q 1, lightly weathered by TMC, which is the same type of loco that I actually saw that day!

I must finish by stating that, in 1944, I was but eight years old, and most of the above comes from my memory of rather a dramatic situation, which I have been wanting to tell for some time.

The story of the diorama era 1944

The diorama starts at the village hall, which was opened in 1933 and provides a home to the many village activities which are held here throughout the year. Note also, the lintels within which long standing nests of swifts can be seen for these increasingly rare birds.

At the front, next to the telephone box, the local policeman, bicycle handy round the corner, is chatting to his superintendent, who has just been driven to meet him by his lady police driver. They are keeping an eye on the two children whose mum is just arriving to collect them from ballet class. The flower seller is preparing her wares for tonight's performance of the Flower Song. The First Aid Instructors are about to return their ambulance to the village hospital garage.

Across the way, although being June and the villagers are mainly interested in cricket, "Parkie" has setup a goalpost, so the local lads can keep playing football, under the guidance of their local PTI. At the Static Water Pool, the



AFS team are completing their daily top-up (just in case) before driving their Coventry Climax pump back to base for a wash down. The children always watch this procedure, though with the water gone, there will be no chance of catching a newt this evening.

By the bike rack, Miss Angel is calling her girls together, though several are still watching the loco go by.

At the railway bridge, there is a narrow crossing, and the 'On Duty' Redcap is ensuring that the children do not cross the line, as the 'up' goods approach. Shift over, his bike is leant against the pill-box ready for the off, as his relief has arrived.

The cows are content, and the black bull watches the goods train roll smoothly towards the bridge, but, as it passes, there is consternation on the northern footpath. It seems that a young lad (being me) who had been clinging to the fence whilst waving at the train crew, has slipped and knocked himself out when he hit the ground. Miss Angel's girls were at his side in a flash, and in no time at all the boy (me) was picked up and carried over to the village hall, where it seemed that everyone in the area had turned out. "Just to see if we can help!"

Quickly recovered and checked out, the young lad, quite perky by now and chatting to the girls, was given a ride home in the superintendent's car, much to the consternation of his mum. The bus driver at last rings his bell



and moves off.

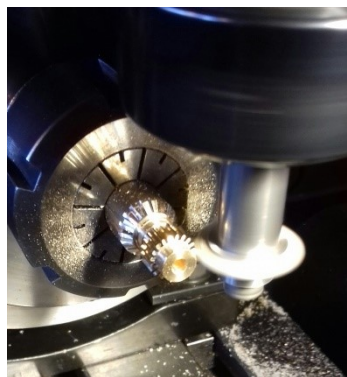
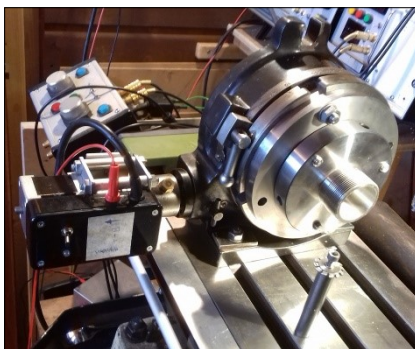
So, you could say, that this day would be well remembered, and for me would create an interest in railways, both real and models, and of course, girls.

Accurate to one second in 43,000

by Mike Manners

A lot of last year and hence lockdown was taken up recovering from the implications of returning home from a holiday in St Ives to find our immersion heater had developed a leak and had flooded the kitchen and the hall. This all happened right at the beginning of the first lockdown and getting things sorted took up most of last year and involved a total strip out of the kitchen and replacement, significant changes to our heating system, including the relocation of our boiler and its replacement, a new hot water tank and new flooring in the kitchen and hall, not forgetting all the re-decorating that had to be done. I did manage a few workshop projects. I started by throwing out a set of old plastic storage drawers and designed and built some much better ones in wood.

However, one of my more esoteric interests is clocks. I have bought one or two non-workers at auctions, repaired them and have them working around the house. I am also building a couple from designs by John Wilding. One of these is an electric clock, which has taken me a couple of years to get to a working stage. Construction involved setting up a certain amount of automation on my mill and rotary table.

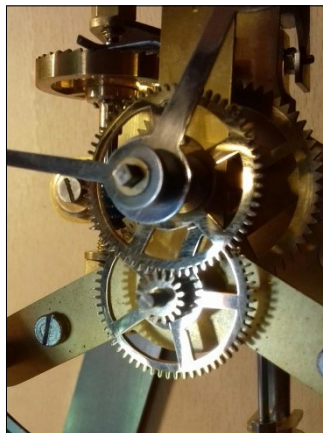


There are many ways to cut clock gears, but the easiest is to automate the process and just “walk away” and let the machines get on with the job. I have some software that will do all the gear calculations and installed drive stepper motors on the horizontal slide on my mill and on my rotary table. Photo *above* shows the stepper motor on the vertically oriented rotary table. Photo *left* shows cutting a gear using the vertical mill and

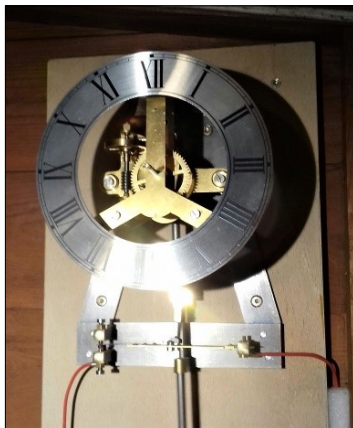
Photo *right* some of the cut gears – size comparison with an old three-penny piece – the not so good gear is a result of the battery going flat on the computer controlling the stepper motors!

Photos *on page 9* illustrate details of the working clock. At first the clock did not keep particularly good time and it took me a while to track down the problem. Part of the John Wilding de-





sign was a little dubious, so I replaced a couple of parts and it is now remarkably accurate. In fact, it is within one minute of being correct over a one-month period. Not bad for a clock in an outside unheated wooden workshop. I have some cosmetic work to do to finish



it off: the hands and other bits need blueing in my blueing box (I'll say more about this in a future *Prospectus*), most of the parts need polishing and lacquering and it really could do with case to protect it from the dust in my workshop. Work in Progress!



Roof almost complete with the Multifoil getting stapled and taped in place. **Words and pictures by David and Lily Scott**

WORKSHOP EXTENSION Part 2

Three quarters of the roof up and insulated. This being done in the last quarter for best access.

Timing with a week without rain saw it fly up.



A great view of the Newbury wall. This also went up very quickly with the insulation getting thumped into a slightly smaller space between the uprights. I got all the joints calked with my favorite Gripfill and the heavens opened.

IN SHOPS THIS MONTH

Building a Claud Part 2

by John Billard

I finished Part1 with feeling quite pleased with the result and then, horrors, finding quite a major error. My sources of information at that stage were primarily the Beyer Peacock drawings (B-P built the last ten B12s with tenders in 1928) and copies of Stratford drawings provided by the Great Eastern Society. The tender tank was quite a challenge to put together and I made a cardboard mock up of the top and coal space to give me some idea on to proceed – following the B-P B12 tender drawings. A glance at the other source would have told me that while the B12s had a self-trimming (sloping) coal space the Claud did not - and I had constructed the former! This was not a momentary mistake – I had spent weeks on this stage so how could I have missed it?

Having resolved the problems of water tightness I was in no mood to undergo a major reconstruction exercise. So, there it remains. Provided the tender has plenty of coal – it will not be noticed. But there goes my gold medal I thought!

I therefore have a tender at the almost complete stage, 20 years on. Building the engine at that rate – well it will never happen. So I took the decision to simplify construction – I want to be young enough to help lift it when its finished! This consists of following the Martin Evans published design for internal details and where it would speed progress and not compromising what I wanted to achieve. This has included things like frame stretchers, drag box details etc., and later the bogie design that is fairly close to the GE version in any case.

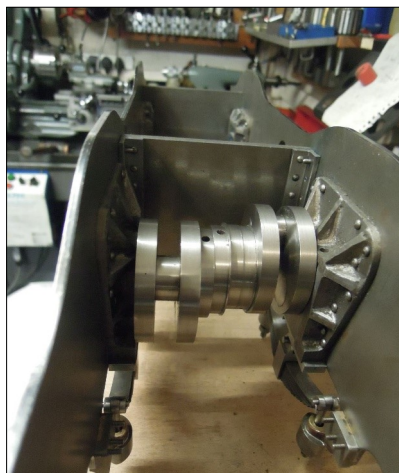
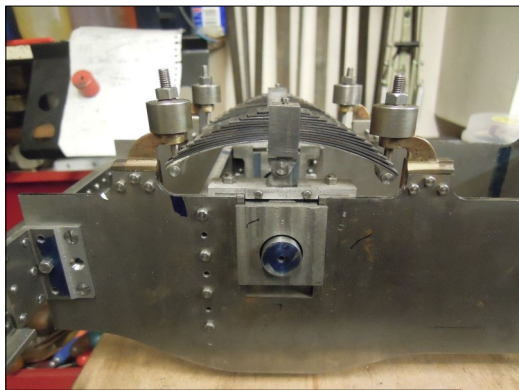
So I came to the frame design. On this I found it possible to revert to the original layout. This meant producing a decent drawing and fortunately I have access to a small parallel motion drawing board. This was sketched out and inked using the GE source. I was tempted to have this laser cut – but recourse to Malcolm High at Model Engineer Laser revealed that they would only then accept an electronic file as a source. As an alternative I approached Stephen Harris Associates (07542 001823) who readily accepted my draughtsmanship, converted it to an electronic file, returned to it me for proof checking and dimensioning and soon provided a pair of cut frames in 3 mm steel for under £100.

As an aside, much as I appreciate what it can do, I have not gone down the CAD route. I did have a look – but decided that I would have cut much metal by the time I could cope with that lot! So, I have stuck to pencil (and rubber) sketches for all I do.

The frames arrival really gave me a boost and I set to produce the buffer beam and drag box to provide a three-dimensional effect. Then followed the simple stretchers, horns, and then axle boxes. These are of the split type in

cast iron. For that I copied the Martin Evans Manor design. Quite a bit of work. The suspension follows the original Claud and the springs are of the plate type. With the six springs of the tender behind me I used annealed spring steel from Doug Hewson who also provided spring hangers ex his new pannier tank design. These are awkward to make and wanted a fair bit of modification to suit but worth it in the end. The individual spring plates were slotted internally to provide additional flexion and then heat treated as whole.

More recently I completed the crank axle again following the ME instructions but incorporating circular crank webs as in full size. But to do that I had to have the eccentrics. As remarked, the Claud had valves under the cylinders rather than on top, and I wanted to follow suit. This involved a substantial valve gear redesign. More of that next time.

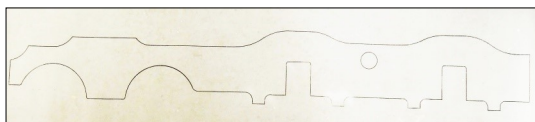
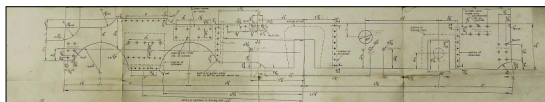


Top left: Driving axle (inverted)

Left: Buffer beam

Above: Crank axle

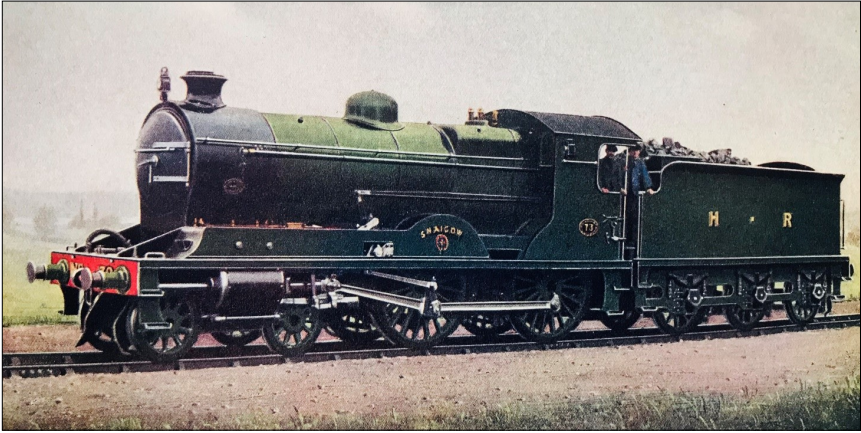
Left: Original and modified frame drawing—spot the difference if you can!



Photos John Billard

IN SHOPS NEXT MONTH

by Alasdair Milne



Note

The term “In Shops” does not refer to availability at Robert Dyas or similar. It relates to goings on at railway construction and repair workshops. e.g. Derby or Brighton (Class 4), Stratford (Claud), or in the example above, the company of Hawthorn -Leslie of Newcastle on Tyne. Ed.

Online Pub Night Meetings.

Following on from the last online “Pub Meeting” there will be regular online meetings every Thursday at 19.30 to 21.00. Members are welcome to join in with whatever topic that you may wish to discuss. If you have a topic you wish to present please let us know, contact details are on the front page.

Please write for Prospectus.

Topics submitted by RSME members for the Prospectus on any subject are welcomed by the editor. Photos welcomed.

Opinions expressed in PROSPECTUS are the personal views of the contributor and cannot be taken as reflecting the views of the trustees or editor.

The deadline for the March issue is 18 February. This is the final date.

Contributions may be submitted in hard or soft copy to the editor.

John Billard Old Station House Twyford Reading RG10 9NA

01189 340381 or 07834 998971

john@jegbillard.plus.com