My First Attempt at Scratch Building

Some months ago, I was just a little bit afraid of taking the first steps in scratch building because of my limited modelling skills. This article is written for those of you who are still considering their first attempt at scratch building. What I needed was some inspiration and I hope that my experience will provide the inspiration that you need.

My inspiration started during a train holiday in Switzerland. Our train had stopped in Filisur (if my memory serves me right) just by a goods train with a timber wagon. As I had quite a few `logs' given to me by a neighbour for use in our chimnea, I decided that I needed to buy a timber wagon to use the logs on my garden railway.

When I got back home I posted a request on the 16mm Yahoo group to ask for advice as to where I could purchase a timber wagon. Apart from the direct answers there was one reply that said that it would not be difficult to scratch build a timber wagon. This was the second piece of inspiration I needed. The rest of the advice amounted to the fact that LGB made a timber wagon but it was for 45mm gauge (my layout is 32mm) but it was not difficult to re-gauge.

Now it was crunch time. As I said my modelling skills were limited. I had been building kits ever since I had an Airfix Golden Hind but I had always been in a rush to finish and the end result showed just how little effort I had put in. Since coming late in life to garden railways, (previously n gauge), I had built a few kits and, because I had decided not to rush, the results had not been too bad. But the thought of re-gauging a model was just a little bit off-putting - but it was the only away I was going to get my timber wagon.

Via Google, I found The Engine Shed and ascertained from them that the dimensions of the LGB wagon were ok for my railway. They did say that the wheels were difficult to re-gauge and it would be better to buy 32mm wheels. As this conflicted with the comment I received via the 16mm group I decided to go ahead with the purchase and see how much of a problem re-gauging would be.

When the LGB wagon arrived I started to take it apart. Firstly, I took off the LGB couplings and drilled a hole in the buffer to take a coupling hook fashioned from a link of coupling chain. Looking at the wheels, I realised that re-gauging would not be a problem. The wheels were made from plastic fitted, in two parts, onto a steel axle. It was simply a matter of cutting 6.5mm off the centre of each separate part of the axle set and placing the resulting collar on the outside. Suddenly, two 45mm wheel sets were 32mm.

I immediately put the bashed kit behind my Raven and ran it. It was then that I discovered that LGB make wheels with rather a large flange with the result that the wheels were bouncing off the chairs of my Peco track. This gave me a problem. I had my timber wagon but there was no way I could run it unless I could reduce the diameter of the flange. I did have a grinding wheel attachment for my electric drill but I could not guarantee to keep the flange circular. Suddenly I had a little bit more inspiration. I split the wheel sets and put the axle with just one wheel attached into my miniature drill and held that against the stationary grinding wheel! The result was that after about an hour I had four wheels with perfectly circular flanges that were of the correct size for my track.

I was so pleased with the result that I decided to buy another LGB model so that I could use up the rest of the timber logs.

However, before I could get round to ordering it I noticed that there was something wrong with the LGB design. It was vacuum braked and the pipes were offset to the right hand side of the wagon at both ends. This meant that, if two wagons were placed together, the pipes would not be in a position to be joined together. It was this realisation that gave me my final piece of inspiration to scratch build my own timber wagon. I also decided that the stock would be unbraked so I removed the vacuum pipes from the LGB wagon.

I firstly measured the LGB wagon and found that the dimensions were approximately 9" by $3^3/_4$" with a wheelbase of about 4". My wagon would obviously have to be about the same. I went to my local craft shop (where I get my acrylic paints for resin models) and purchased a length of timber $3^3/_4$" wide by $^1/_2$" thick. The response to my original request on the 16mm group which said it was not difficult to scratch

build a model had suggested using lollipop sticks to represent the planks. But I had to find a source. The Local Planning Officer had told me about a large craft shop attached to a local garden centre. When I went down there I found that they sold a bag of 250 lollipop sticks for the princely sum of £1.99.

I cut the bed the same length ($8^{3}/_{4}$") as the LGB model. On hindsight this was a mistake. I should have stuck the lollipop sticks on first and then cut off when I reached about 9". I then cut four $^{1}/_{2}$" pieces off the length of the timber for the sole bars and buffer beams. Before I make another I am going to get some $^{1}/_{2}$" x $^{1}/_{2}$" timber - it will be easier. I purchased my wheel and buffer sets from IP Engineering. I bought the brass stake pockets and corner straps from Brandbright.

I started the assembly by gluing the sole bars to the flat bed. As I was using IP Engineering wheel sets I decided to follow the instructions I had with my guard's van so placed the sole bars with their internal faces 48mm apart. I then attached the buffer beams to the end having first drilled the hole (centrally) for the buffer. This assembly was painted using matt black enamel from Wilkinson's. The axle boxes with wheels were glued into place to give a 4" wheelbase. The buffers were bolted into place and the brass corner straps were glued to the assembly.

I then glued the lollipop sticks to the top of the flat bed making sure that they were square to the ends. Here I had a bit of luck because 23 lollipop sticks at $^{3}/8$" each with a very small fitting gap came just to the end of the truck bed. When they were all solidly fixed, I cut off the overhanging sides with a craft knife and finally sanded the edges so that they were smooth.

I decided to use a rustic oak stain (again from Wilkinson's) to colour the planks. I used three coats, leaving each one to dry thoroughly before applying the next. Unfortunately I could only get a satin finish, which did not quite look right so I used a matt varnish as a final coat. This looks quite authentic.

The uprights were made from some $^{3}/_{16}$" x $^{1}/_{8}$" wood, which was left over from the IP Guard's Van kit. This was cut to length ($2^{1}/_{2}$") with a bit of shaping to fit the stake pockets. This wood was treated in exactly the same manner as the lollipop sticks for the planking of the bed of the truck. The uprights and stake pockets were then glued into place together.

I then cut six pieces of log to approximate size and placed them on the timber wagon. To avoid them moving I used an epoxy resin to secure them to one another but not to the bed of the truck. For the steel hawsers I used some galvanised wire that I found in the garden shed. I cut this to size, flattened the ends, and fixed them to the underside of the truck with staples. This means that, if I ever want to run an empty truck, it is simple enough to remove the steel hawser and the timber. Finally I applied some spare transfers that had come with the LGB wagon.

I was now left with the question of what to do with 227 lollipop sticks. I decided that I would make some coal staithes so I looked through Tag Gordon's book ‘Garden Railways in Focus' to see if there were any designs that I could follow. I had read this book once and glanced through it on several occasions for ideas and I seemed to recall seeing some coal staithes in some of the photographs. Whilst flicking through the pages I was most surprised to see on page 31 a photograph of a double-headed train comprising 6 timber trucks and guard's van. I must have seen this several times before and it had lodged in my subconscious until I saw the timber wagon in Filisur station.

In spite of the fact that this was my first piece of scratch building I thoroughly enjoyed myself. I would like to thank those who, wittingly or unwittingly, gave me the inspiration to `have a go'. It certainly will not be my last piece of scratch building although I do recognise my limitations, both in imagination and technique. I hope that this article will give someone else the push that they need to `have a go' themselves. Just try it; I am sure that you will get as much enjoyment from the experience as I did.....

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