



NEWSLETTER OF THE COLCHESTER SOCIETY OF MODEL & EXPERIMENTAL ENGINEERS LTD

No 49

Spring 2016

### Summer Events

As CSMEE celebrates its 70<sup>th</sup> anniversary this year we will not be planning away trips to other club venues but instead will be holding two 'special' events to mark this anniversary year.

#### **Weekend of the 4<sup>th</sup> and 5<sup>th</sup> June 2016 – An invitation weekend.**

The Club will be inviting three different clubs to join us on each of these days. It is hoped that running will take place on both ground level and raised track (Gauge 1/0 will also be available) and that by limiting the number of attendees loco's in use each driver will have a reasonable run on our track. (Visiting club members will have priority access to the tracks). We will provide our normal hospitality and will need club members to act as 'hosts' to our invited guests.

#### **Sunday 4<sup>th</sup> September – a 'Special' family Day.**

Bring your loco and family for an enjoyable time. Give rides to those who do not have a loco, let the younger generation find out what they are missing, and meet up with your fellow members. A Hog Roast is planned with seating available under a large tent.

#### **Visit to Chelmsford MES – Saturday 18<sup>th</sup> June.**

Late entry, See page 15.

**Ian Pryke**

### Steam Injectors

I am in the progress of making a batch of injectors which will be for sale to club members over the summer months. Keep an eye on the club notice board if you would like to buy one of them. They will each be tested on the Clubs test boiler [you may watch me do it if you want to] and therefore guaranteed to work.

**Geoff King**

### Tuesday Junior Club

During school holidays, Gordon A and I have regularly brought our Grandchildren to the Club on a Tuesday to play with their electric locos. For the Easter break we put out an open invitation to Club members to bring along their Grandchildren / Nephews/ Nieces and electric locos to come and join us and make the day a case of more the merrier. Tuesday 5<sup>th</sup> April was a sparkling sunny day and the 9 children had great fun riding and driving the 6 electric locos (2 on each track) even those who had not driven before. Peter Bohn had kindly allowed the use of his American loco "The Beast", which had been used at the previous Saturday children's party, and all the children had a chance to drive it after a brief instruction. The day was a great success with locos running nonstop from 10:30 to 4:30 when some of the batteries expired. We will continue to run the Tuesday Junior club on other school holidays and hope that more children will get the opportunity to join in.

### Activities during this period of LINK

#### **Alresford Station Exhibition**

On Saturday 13<sup>th</sup> February the Society was invited to attend an event celebrating the opening of the Alresford (near Colchester, Essex) railway station 150 years ago . The railway was opened by the Tendering Hundred Railway Company in 1866. This Company was then acquired by the Great Eastern and by 1882 had reached Clacton.

The Society exhibited a number of locomotives in a carpet shop front window adjacent to the station (Main Line Carpets). On display were two Great Eastern designs, a J15, 0-6-0 and a Claud Hamilton 4-4-0 D16/3. These were followed by other locomotives which had all been regularly seen passing through the station over the years of the LNER, who had taken over when the Big Four was formed in 1923. These were a B17, a B1, and last a Britannia, which had run through the Alresford station until the end of steam on the line.

Also on display were an A4 and an A3, which were included as one of the parties of dignitaries who attended the meeting, Mr Ron Kennedy, had been a driver of these classes of locomotives during his career on BR. One of the Colchester members had been his fireman on the A4's so these locomotives were shown for added interest.



**Geoff King**

### The Wednesday Wrinklies Report

Here we are again, it seems just a few days into 2016, and Don is already asking for something for Link. Time seems to go faster than ever as the years go by.

There was no one wanting to have a run round in the early part of the year, it was two over coats cold!, but the Wednesday gang have found something to do, despite the cold weather, by being engaged in refurbishing the gauge 1 track. Fortunately most Wednesdays have been dry so the work progressed well.

There have been a few more locomotives running on the raised track. Dave H and Gordon A have both started to run their locomotives. Also, in a few weeks' time from writing this, Butch will be back on the rails. It has been fitted with a new design of regulator and a modified dome to overcome some of the design problems. When mods have been proven it will once again be available to run, along with Sweet Pea. I have also made a Rose bud grate for Butch for experimental reasons.

With the arrival of the New Year I have looked back at last years running. I covered 148 miles with my locomotives last year. The large proportion of the mileage was done on a Wednesday at the club meeting. The mileage done during the children's parties was 25.5 miles which was all done on the ground level track. Away visits to other clubs totalled 15+ miles. The longest run

of the year was 10.25 miles which was when we ran for our “Meet the Neighbours Day” on the ground level.

The friends of Alresford Station saw our display at the Great Bentley Show last year and made contact to see if we could display some engines at their celebration in February commemorating the opening of Alresford station by the Tendring Hundred Railway Company 150 years ago. This just goes to show that you never know who will see our displays and what the result will be.

Lastly, I have now made a raised section of track (5” high) so that the club can put a mirror underneath a locomotive when we do a show. This idea is not new, as I have seen it done at exhibitions before. It may also be found useful to our boiler inspectors to see the inside of a fire box of a locomotive when they do a hydraulic test

**Geoff King**

### **Steam Locomotive Driver Training**

Steam locomotive driving experience using Sweet Pea will be commencing from Friday 6th May, starting from around 7 pm onwards until the light fails. Instruction will be given on opening up the site in readiness for a steam up and the operation of the steaming bays including the water supplies to both the stand pipes and steaming bays. Drivers will be given instructions on firing the locomotive, controlling the water level, and general care of the locomotive under steam. After running, instruction will be given on blowing down the boiler after the fire is dropped and draining down the water tanks before putting the locomotive to bed for the week.

How to start up the signal system and read the signals on the raised track will also be shown together with operation of the traverser and bridge and include the method of controlling the safe usage of the bridge key to prevent anyone running into the bridge when it is required to be lowered.

If anyone would like to have a copy of the Sweet Pea driving instruction disc, please ask me for it so that you can take a copy onto your computer. Looking forward to seeing you there on Friday nights.

**Geoff King**

### **Gauge 1 / O Test Track**

Over the winter months the Gauge 1/0 track has been fully refurbished. The track was dismantled and the old wooden sleepers and supporting timber discarded (recycled to a log burner!) The supporting steel posts were cut through and pipe inserts, generously provided by Geoff King and Graham Willmott, welded into the existing stanchions by Ian Pryke and Don Green in order to raise the track by 400mm and at the same time adjust the levels to ensure the track bed is level all the way round. Access to the inside of the track is now affected by a new hinged bridge section instead of the previous lift out section of track. So that another loco can be prepared while the first one is running round, a passing loop has been added utilising a set of gauge 1 points provided by Mick Wadmore and modified by myself to include gauge 0 rail. The whole facility has been electrically bonded so that electric powered locomotives can be run including 3<sup>rd</sup> rail.

The facility now caters for;

- Gauge 1 Steam and 2 rail electric
- Gauge 0 Steam, clockwork and 2/3 rail electric

Thanks to all those members of the Wednesday gang who have helped and in particular to Don Black who hasn't even got a Gauge 1/0 loco to run (Yet).

We are looking forward to seeing trains running round during the summer months, so why not dig out your stock and have a go. For those wishing to use electric locos there is an extension cable just inside the tool/mower garage on the right hand side of the door.

**Jim Hollom**



### **Gauge 1 / 0 Test Track**

Raised to make operating more friendly and cutting the grass easier.



Electrification of the tracks should enable running when the weather is not suitable for steaming.

### **Children's Parties with a difference**

As many of you know I could not be at the party on the 2<sup>nd</sup> April 2016, but WOW what a wonderful start which is a credit to everyone who was there contributing. I received an email from Becky Morris, mother of Thomas the birthday boy, and this is what she said:

“I would like to say that we had a wonderful time and your place is nothing short of amazing! I can't believe I have never heard of it before and I have lived here for over 40 years. The attention to detail, the skill and workmanship were all breath taking and, of course, I loved most of all how friendly you all were and rightly proud of what you do there. Your place is the 3<sup>rd</sup> Colchester station and is a hidden gem for the town.”

She has also taken a video clip and will let us have it once she has edited it.

All those supporting the party should be proud of themselves. To get that kind of response is nothing short of brilliant.

For those who wish to help at other booked parties the dates are:-

14<sup>th</sup> May, 2016, Janine Willsher

25<sup>th</sup> June 2016, a Member party for David Cocks

2<sup>nd</sup> July 2016, a Member party for Peter Bohn

9<sup>th</sup> July 2016, Andrea Crowley

1<sup>st</sup> October, Emma Everett

We also have one confirmed booking for next year:

3<sup>rd</sup> June 2017, Janet Pinder

We need a minimum of 12 club members to run the parties so please put your name on the website saying you are available to help. This will help ensure you do not give us your time and find there is nothing for you to do because we happen to be oversubscribed for that one party. Most parties we are either short of people or just enough which means there is nobody to give the guards a break so your name on the list is very very welcome.

I hope to be back at the parties soon.

**Yvonne Chappel**

### **Men at Work**



Hold still, this won't hurt



His next job is the Forth Rail Bridge

### **Club Badged Clothing**

The sale of club badged clothing has been dormant now for several months. If you would like to have a sweat shirt or a polo shirt embroidered with the club name and badge, please fill in the list on the club notice board and I will order you one. You will find a shirt with the club logo on the front useful if you visit another club or attend an exhibition. For an extra fee you can have your name embroidered on if you so wish.

**Geoff King**

### **Secretary's Report**

I cannot start thinking about compiling this report without first making reference to the passing of Mike Gipson. Mike was a well-respected and supportive member of this Society. He always had time for everybody, would lead by example and his knowledge and demeanour will be sorely missed. Our Society will be a poorer place without him.

Moving onto more mundane aspects... I can report that we currently have 112 members of which 12 are juniors. This year has seen a considerable downsizing and we do not know why. All the members who did not renew their subscription were sent a questionnaire to try and provide some feedback to Council. A stamp addressed envelope was included but, at the time of writing, nine had not bothered to respond.

### **Gauge O/1 track**

The refurbishment is complete. Jim Hollom has completed the re-setting of the third rail he has installed, and it is all systems go. Locos have been run and it all looks good. Let us hope that the weather allows those members, with these models, to visit the site and enjoy the track.

### **Wednesday ‘Gang’**

Wednesday’s regularly sees 12 + members present – far more than on some Friday nights. More about that later. When I joined the Society, the Wednesday ‘slot’ was described to me as ‘site maintenance’ day. You work in the morning and if time allowed you could have a steam up after lunch. Needless to say there are still many tasks to be performed around the site, it may be weeding the flower beds or along the track bed, trimming back vegetation or cutting the grass as well as any ‘major’ projects that require many hands. These basic tasks are not the specific responsibility of a few – all can join in and they would be achieved a lot quicker with many helpers. So, if you want to steam up on a Wednesday, think about what you could do in the morning to help maintain the site.

### **Friday evenings**

Geoff King started his ‘driver’ instruction on May 6<sup>th</sup> and hopefully during the summer months there will be members looking to increase their skills as well as run their locos or just coming to take the air with good friends. Ian Pryke is always looking for good ideas to fill the winter talk programme, but what do you want to do on a Friday evening when there is no talk arranged? The other Friday there were just four members present, a far cry from the days when you could hardly get in the old clubhouse. Is Friday the best night for a club night? The Council will always look at ‘new’ ideas to help deliver what you, the members’, want from your Society. So talk to us, share your thoughts and let’s try and make sure we do not lose any more members.

### **AGM**

This has now passed – 36 members attended and we have fully debated and agreed various changes to our Bye Laws. Two resolutions were not agreed. Resolution No. 19 to increase subscriptions by £5 to cover the cost of printing and distributing The Link was lost. Resolution No. 13 – Workshop Regulations was referred back to Council for further consideration. Members were concerned about the potential for litigation against the Company in the event of an injury and the continued misuse of the gas bottles in the garage. Just recently, yet again, the gas bottles had not been properly shut off and three machines in the workshop (lathe, saw and drill) left with the power still connected. Council will review this particular issue and propose a solution that will need to be put to a Special General Meeting.

Until such time that we can include in the Bye Laws a revised Workshop Regulations section that has the agreement of all members, I do not propose to have the Bye Law document reprinted. I will arrange for a revised ‘draft’ document to be placed in the ‘members only’ section of the website should you wish to refer to it.

### **Visit to Chelmsford MES**

We have received an invitation to attend Chelmsford MES on Saturday 18 June from 10am to 4pm. If you are interested in attending please add your name and details to the notice in the clubhouse by 31<sup>st</sup> May so that I can let Chelmsford know of the likely numbers attending.

The Council are always looking at how we can develop the Society, gain more members and support 'modelling' in general – not just locos. We want to know why a Friday night is no longer popular. I must admit for me, with a reasonable journey to the club and other demands on my time, I only get there occasionally, but I will try to do better. We are planning to attend some local 'shows' to display our activities and 'sell ourselves' but need your support to help at these events. Along with the children's parties it seems the same old faces are always the ones who put themselves out to help.

**Ian Ransome**

## **INDENTURED**

### **Episode 15**                    **A tale of old time learning in industry**

Despite being late home the previous night (from the traction engine rally) Edward was careful to arrive at the Experimental Department a little ahead of the official time. He didn't want to start off giving a bad impression! Somewhat timidly he entered the hallowed portals. (You didn't just walk into this place -- as you might with other shops. It was generally 'understood' that this establishment was a bit different, indeed its activities were somewhat shrouded in an aura of secrecy).

Fortunately, the first person he saw on entering was Mr Jones with whom he was already slightly acquainted. The latter welcomed him to the department explaining that he would have to see the manager -- Mr. Johnson -- before he could start work. As luck had it, this worthy had just appeared and invited Edward to join him in his office. He, first of all, explained the kind of work that they did-- pointing out that the main task was to extract the best all round performance from a given engine type. This meant primarily, optimising the injection equipment, but might go further by covering the breathing and combustion systems. If it was a new engine model they would need to cover all aspects but sometimes they were asked to investigate a specific issue on an existing engine.

He went on to explain that a new engine called the 'Q' was currently under development and that Edward would soon find himself involved in this project. The work would entail taking performance data and then graphing the results to allow comparison with the projected performance expected from the engine by its designers. Mr Johnson went further to explain that such comparisons would also need to be made against engines produced by Dorman's competitors. In some cases they would buy in an engine and test it for themselves but this was an expensive routine. An alternative was to secure the published performance data for the engine concerned; unfortunately this information was often suspiciously optimistic.

Until the coming of the British Standard (BS Au. 141) there were many variations in the way in which engine performance was expressed; some would use atmospheric corrections that were most unlikely to apply in real life and others would run the engine with no auxiliaries at all. The implementation of the British Standard eliminated much of this covert nonsense. Fortunately, at this time, Dorman's sold engines mainly to Commonwealth countries that were quite happy to accept if it was made in the UK then it was alright by them.

After the introductory chat, Mr Johnson showed him round the department. There were only two dynamometers in here and they didn't necessarily run all the time. The analysis of results took place in an office set over to one side-- this went some way to eliminate the background noise. Three engines were in the shop at the time; the prototype 6Q and a 4L occupied the two dynos.

Standing in the fitting area was a 2L. This latter seemed an unlikely candidate for any work of an advanced nature and Edward was curious enough to ask Mr Johnson what work was planned for it. He explained that all diesel twins were normally built with the crank throws set at 180 Deg.

spacing. This gave the engine an acceptably smooth quality when running but accompanied by an uneven firing interval .Put into words: there were two exhaust beats close together and then something of a pause before you heard the exhaust beats again. Some people claimed that this was mildly irritating and thus the notion had been floated as to ways by which it might be mitigated.

In this regard the younger men were quick to point out that most motor cycle twins were arranged as 'split singles'- that is to say the two pistons came up simultaneously (i.e. the crank throws were together and NOT at 180 deg). This, with the pistons taking it in turns to fire gave an even beat to the exhaust. However, this concept was only possible if the reciprocating masses were kept to an absolute minimum. Whilst this was feasible on a petrol engine it was vastly more difficult on a diesel. For instance, the BSA 650 twin featured Hiduminium connecting rods and, of course, alloy pistons - the only ferrous parts being the gudgeon pins and the rings. This plan was followed by all the well-known motor cycle makers as long as the engine was a 4-stroke. Naturally, the vibration rendered by the split single's reciprocating parts was similar, or perhaps a little worse than that of a normal single -- the only gain being the driveline smoothness resulting from the improved firing frequency. (Even so there was often some kind of shock-absorbing device built into the driveline-- between the engine and the transmission).

Reflecting on this, someone had suggested that the 2L might benefit from having a 'split single' layout. Mr Johnson made it clear to Edward that he did not think much of this proposal but since it would not take long to test it he had reluctantly agreed to do so. Having their own foundry and pattern shop meant that it was relatively easy for Dorman's to test out something like this. Nevertheless, they still had to make a new crank and camshaft and obtain a revised injection pump .On the 'L' range, Dorman's bought the injection pump and governor complete from CAV.

Thinking about it, Edward was somewhat baffled by this plan; after all, there were quite a few diesel parallel twins on the market (including Dorman's own ! ) and they all featured the 180 deg crank layout. Whilst there was always scope for innovation, it had to be supported by rational thinking and in this case that did seem to be lacking. He was also aware of a thing called a Lanchester balancer this being a piece of equipment used to smooth out the vibration of four cylinder engines, which, incidentally, had a comparatively mild degree of imbalance compared with the 'split single'.

He had read somewhere that one tractor maker was going to fit such a device as standard. (Tractors were a particularly bad instance in that the engine was an integral part of the machine and often the only separation between driver and the engine was the sprung steel seat-- usually with a sack on it as a concession to comfort. Medical science had recently revealed that this arrangement was quite inadequate – giving rise to a well-known but most unpleasant condition for whoever spent a significant amount of time in the seat).

Regardless of the views held by the experimental department, the engine was duly stripped down and rebuilding was now well under way -- the 4L being duly removed from the dyno in readiness. Meanwhile, Mr. Johnson took Edward over to the 4L and explained that this engine was being used to assess a new kind of injection pump being offered by CAV. ( The initials were those of Charlie Vandervell a famous pioneer in the British engine world. CAV was part of the Lucas group and specialised in diesel fuel injection equipment and high quality electrical components).

Edward could see at once that this pump was very small compared with those that he had worked on in the testhouse and drew Mr. Johnson's attention to this. The latter replied that its main advantage was low cost but that they were not yet sure of its suitability for the Dorman range. It certainly would not be suitable for the proposed 'Q' type but may just about come in for the 'L'. There were also plans to produce a slightly smaller air cooled engine and for this the new

pump would, undoubtedly, be appropriate. At this point Mr Johnson was called away and Edward was left to his own devices; seeing Mr Jones tinkering with the injection pump on the 4L he wandered over and asked him what he thought of the new pump. He replied that he thought it very sensitive -- you only had to touch the throttle lever and something would happen whereas the traditional pumps were more progressive in their response. He further explained that it was known as the 'DPA'. This stood for: Distributor Pump Type 'A'. This description derived from the fact that the high pressure pipes emerged from the end in much the same manner as the HT leads did on a car distributor. Mr. Jones took him into the office and suggested that he should study the CAV literature with which they had been supplied. Edward was thus able to discover more about its origin.

It seemed that it had been invented by an American farmer known as Vernon Roosa. (The pump was sold in the USA as the 'Roosamaster'). Current production in the US was in the hands of the Hartford Machine Tool Company. It appeared that the American version was slightly larger than the English one in that it featured a rotor diameter of 21mm against 19mm. A key feature was its governor; this was cleverly arranged to suit all manner of applications -- having a weight cage allowing 2,4 & 6 combinations of weights in conjunction with various spring 'hook ups' (as the Americans put it !). The weights appeared to be sintered and avoided pivot pins etc. by simply pivoting on a heel formed for the purpose.

Edward reflected that the man behind this design was certainly ingenious and looked forward to delving more deeply into its characteristics. He also learnt that it was 'throttle governed' whereas the traditional pumps were governed by regulating the displacement of the pumping elements. (Generally known as 'rack control'). Old hands in the fuel injection world said that this would lead to speed variation when the fuel viscosity altered. Edward felt that he had much to learn.....

Although it was only Monday, Julie had mentioned that there was another drawing office outing in the offing and that this one was a visit to Crewe locomotive works on Sunday next. Whilst they often went to places of engineering interest the general idea was more social than educational. On this occasion the trip was to be by train -- they were all to meet at Stafford station -- everything was booked in advance including the visit to the railway works. (Edward reflected on the fact that the trip on the train would not offer quite such a cosy arrangement for him and Julie -- that is, compared with the paired seats that were characteristic of a road coach). (Well, you are only young once!) On the other hand, by train, it was only about thirty minutes from Stafford to Crewe anyway.

As the week progressed, he gradually became immersed in the activity of the experimental establishment. Come the Thursday afternoon the 2L was ready to be started up. However, Mr Johnson had left strict instructions that whilst they could by all means, start it up -- they were not to let the speed rise above 800 rpm until he was present. So, at around 2 o'clock that afternoon it was fired up -- as yet Mr Johnson was not around but it would take half an hour or so to warm it through.

Edward wandered outside to listen to the exhaust note which he observed was pleasantly consistent compared with the usual irregular beat of a typical two cylinder diesel. At length he wandered back into the shop where the engine was still running at about 800 rpm. On looking down at the area where the girder structure of the test bed was grouted into the concrete (and retained by rag bolts) he thought he could perceive some slight relative movement -- it looked as though whatever liquid chose to linger around such an area was in fact being alternately squeezed out and sucked back again. A pulsing action which was, suspiciously, in time with the engine's rhythm. Whilst watching this phenomenon he became aware of Mr. Johnson's presence alongside him. He too had noticed the pulsing effect. His first action was to tell Mr. Jones to hold the speed whilst he went to his office and made a phone call. Ten minutes later a contingent from the drawing office arrived. A notable absentee was the chief designer - his deputy came

instead. As they gathered around the 2L Mr Jones was instructed to raise the speed progressively. As it rose the perceptible movement between test bed and the concrete floor increased and now the presence of liquid around the foundation was becoming more demonstrative in that little jets of the oily water were shooting upwards an inch or so. At 1200 rpm the whole bed seemed to be shaking - Edward began to wonder just how much the ragbolts could stand. Interestingly at this moment the speed was reduced whilst a discussion took place between the drawing office contingent and Mr Johnson. Edward sensed that the latter was keen to make sure that the visitors went away absolutely convinced of the impracticality of the plan; to this end he encouraged them to stand rather closer to the engine than they had previously felt to be appropriate - ostensibly to allow them to put their hands on the rocker cover so as to feel the vibration more directly.

Once they had adopted this stance he progressively opened the throttle -- this time allowing it to reach possibly 1500 rpm; to a man they all backed away very swiftly indeed. Edward watched the liquid around the grouting again and briefly saw the little fountains reaching higher than before. He felt that surely, enough was enough, and indeed the speed was brought back to tick over and the engine shut down.

That was really the end of the 'split single' idea but Edward couldn't help but wonder who, of the more senior men, thought that it was a good idea in the first place. In discussion with Julie that evening he pointed out that, after all, it wouldn't be difficult to calculate the difference in out of balance forces between the two proposed engine layouts. She said that she did not know from whom the idea had come but could not help picking up the office gossip; it seemed that the chief designer had, in recent weeks, been more inclined to leave major decisions in the hands of his deputy than had been the case hitherto. Clearly, many were of the opinion that this was not a satisfactory state of affairs and, indeed, further evidence was to come to light shortly which suggested a lack of perceptive wisdom at the top of the design tree.

The 2L was removed from the test bed and placed in the fitting area where it was to be converted back to its standard form. Edward had offered to do this work (after all he had a thorough knowledge of the 'L' type engine). But Mr Johnson seemed anxious that his department should have no further involvement with this ill - starred project and was arranging with the erecting shop to send down a fitter to do the work. Unfortunately, this plan foundered on some argument that the erecting shop gang concerned would suffer a loss of bonus payment if they were to be working with one man short. So, in the end a fitter was obtained from the repair shop. This proved a painful experience for Edward because it was clear that the man had never seen an 'L' type engine before in his life, and consequently the reassembly process took many days. (Edward thought that he would have done it in two). Anyway, the weekend now beckoned and Sunday morning dawned fine; he elected to go and pick up Julie in the Morgan. (The Morgan had no hood -- only a thing called a tonneau - though this could be arranged to give your passenger a modicum of protection. Alas, the driver could enjoy no such benefit). They drove to the railway station and parked the car in the college car park which was vacant on a Sunday. (Although the Morgan might constitute an attractive vehicle the fact was that, at the time you could leave it in a public car park confident that it would be quite safe).

As they walked to the station they recognised several Dorman employees doing likewise; by the time they had all assembled on the platform it was only some four minutes before the train was due. Edward noticed that the signals (semaphore) were pulled off for the main line up the centre of the station. Stafford was something of a classic LNWR station in that the fast lines were segregated by rows of cast iron columns from the lines adjacent to the platforms. Additionally, a bell was sounded to signify the passage of a non-stop express. As it happened, their train came in just before the non-stop and he was thus unable to see the latter. As they boarded their own train they became aware of a loud, sharp, crackling sound which he was quite unable to explain.

Julie said, "What on earth was that?" For the moment he could only confess ignorance. But having had a moment to reflect, it occurred to him that the crackling sound must have been one of the prototype diesels working out of Euston at that time. This would have been No 10,000 or 10,001. Later they would be joined by the Southern trio -- one of which was uprated to 2000 H.P. All five locomotives featured the English Electric Vee 16 engine which had a 10 inch bore and a 12 inch stroke.

It was 25 miles to Crewe and he figured that it would take them a shade over half an hour. He had managed to note their engine which was a parallel boiler 'Scot' -- 'Civil Service Rifleman'. One of his friends in the Capstan shop - Albert - had been a fireman on BR before joining Dorman's. He'd explained to Edward that the older 'Scots' were quite well liked by the men despite their dated appearance. (This impression was probably due to the parallel boiler). Above all, they steamed freely as long as you kept the fire fairly thin. They could also roll quite badly at speed -this quality tending to get worse as the mileage built up. (Apparently 'Grenadier Guardsman' was a particular swine in this respect). The other common complaint was that the regulator gland would leak at the wider openings of the throttle and if you left your tea can to warm on the shelf above the fire door it was swiftly rendered undrinkable. Whatever additives the LM chose to put in the boiler water did not suit the human stomach.

He explained to Julie that it was uphill for the first fifteen miles out of Stafford and certainly 'Civil Service Rifleman' sounded as though it was being worked pretty hard. At Whitmore the line levelled off and there were water troughs - the fireman wasn't too adroit at withdrawing the scoop and cascades of water were visible splashing against the window. From this point on it was downhill to Crewe and speed rose rapidly reminding him of the LMS attempt at the speed record in 1937 when the engine 'Coronation' just attained 114 MPH prior to vigorous braking.

This nearly led to disaster when they had to take a double reverse curve to enter the platform at Crewe station. Crockery was broken in the dining car and so were several of the track chairs. A reporter on the train wrote that he had witnessed a sea of pallid faces on the platform transfixed as the train lurched through the 'S' bend towards them. Fortunately, today's entry was more controlled and they came to rest in 33 minutes from Stafford. No pallid faces either.

For the works visit they were accompanied by a guide who met them outside the main erecting shop.....(to be continued).

**Paul Davies**



**COLCHESTER SOCIETY OF MODEL & EXPERIMENTAL ENGINEERS Ltd**  
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