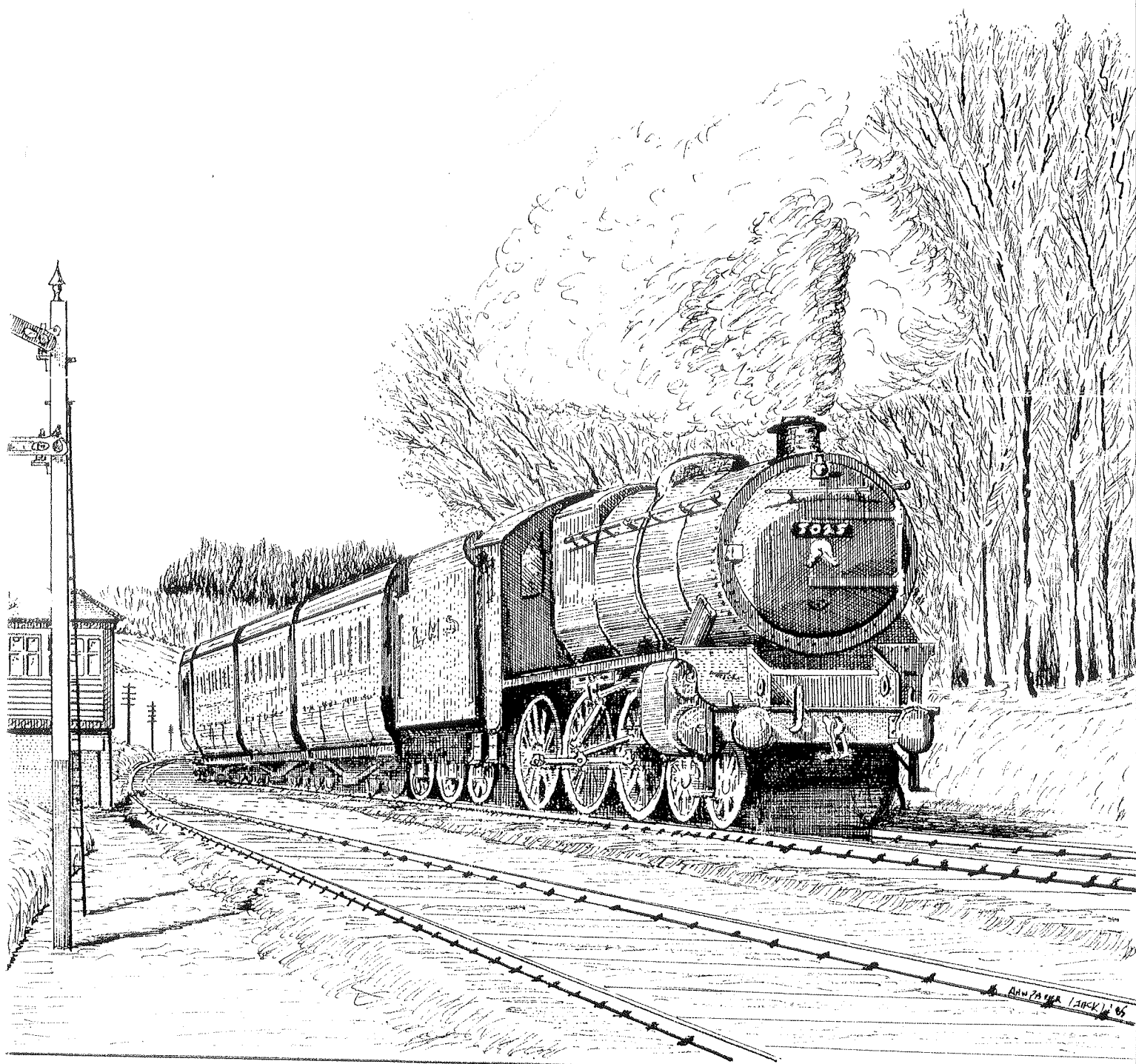


MAIDSTONE MODEL ENGINEERING SOCIETY



NEWSLETTER - SPRING - 1985

Maidstone Model Engineering Society

CALENDAR 1985 from April

Friday April 5th : Bring and Buy Sale 7.30 p.m.
Sunday April 7th : Start of Running Season.
Friday May 3rd : Bits and Pieces 7.30 p.m.
Saturday May 18th : Wine and Dine on the Kent and East Sussex Railway.
Saturday May 25th : Visit from Sutton Club.
Friday June 7th : Night Run and Barbecue.
Saturday June 15th : Chelmsford Open Day.
Sunday June 16th : Also Chelmsford Open Day.
Friday July 5th : Preparation Evening 7.30 p.m.
Saturday July 6th : Maidstone M.E.S. Open Day.
Friday August 2nd : To be arranged.
Saturday August 31st : Visit to Sutton Club.
Friday September 6th : To be arranged.
Saturday September 7th : Visit from Romney Marsh Club.
Sunday September 15th : Sheppey Track Opening.
Sat. September 21st : Southern Federation Rally at Tonbridge.

Officers - 1985.

President - A.H.W. Payne Esq. (Jack), 38 Oxford Road, Maidstone, Kent.

ME 15 8 DJ. Maidstone 57545.

Chairman : P.J.A. Chislett Esq. (Peter), 30 Manor Rise, Bearsted,

Maidstone, Kent. ME 14 4 DB. Maidstone 37407.

Secretary - M.N. Parham Esq. (Martin), Bramleys, Old Loose Hill, Loose,

Maidstone, Kent. ME 15 OBS. Maidstone 44175.

Treasurer : P.A. Roots Esq. (Pete), 97 Tonbridge Road, Maidstone, Kent.

ME 16 8 JN. Maidstone 58599.

For Sale

Approximately 600 wooden sleepers 12" by 3" by 1½" New.
Please contact David Best
Telephone Maidstone 858853.

THE NEXT LOCOMOTIVE

It must have been 4 or 5 years now since I completed my LSWR Adam's tank and after the upheaval of moving etc. I began thinking about what to build next.

The rediscovery of a pair of Terrier cylinders that were cast in the old Bearsted foundary made me think about a 5" version of the first locomotive I built quite a few years ago. This was one of the little 2-2-2 well tanks of the Waterford & Tramore Railway.

This small railway in Southern Ireland, physically entirely isolated from the rest of the system, consisted of a 7 1/4 mile line, without any intermediate stations, running between the town of Waterford and the South East resort of Tramore. Each end of the line was terminated by a small turntable and the engines always had to pass over the turntables and run-round loops at the end of a run, so they never ran bunker first. In consequence a plain hook only was provided on the front buffer beam.

The first two engines actually built for the company were a couple of single wheeled well tanks built by William Fairbairn & Son of Manchester and arrived at Waterford on the SS "Mars" from Liverpool on the 28th April 1855. It was recorded that the pair cost £3,785 delivered!

As built they had very much smaller domeless boilers with raised fireboxes having Salter safety valves mounted on top. No brakes were fitted and just weatherboards to protect the driver and fireman. In 1865-6 they got new boilers, this time with domes mounted on the front ring.

Fairbairns supplied several very similar engines to the Irish railways in the 1850's. Four were ordered for working the "Night Mails" from Dublin to Galway. Actually only three were delivered the fourth being shipped to Brazil in 1852 and still preserved there in practically original condition - being the first locomotive to work in that country.

The Waterford and Tramore engines were rebuilt in 1895 and 1897 respectively with larger boilers and cabs, together with new bunkers, tanks and brakes by the Avonside Engine Company. Steam brakes were added with back sheets to the cabs in about 1907. Dimensions were: cylinders 13" x 18", wheels 5' 0" and 3' 6", wheelbase 6' 6" + 6' 6", boiler barrel 3' 9" outside x 9' 3", barrel pitched at 6' 2". Weight about 26 tons with 12 tons weight on the driving wheels.

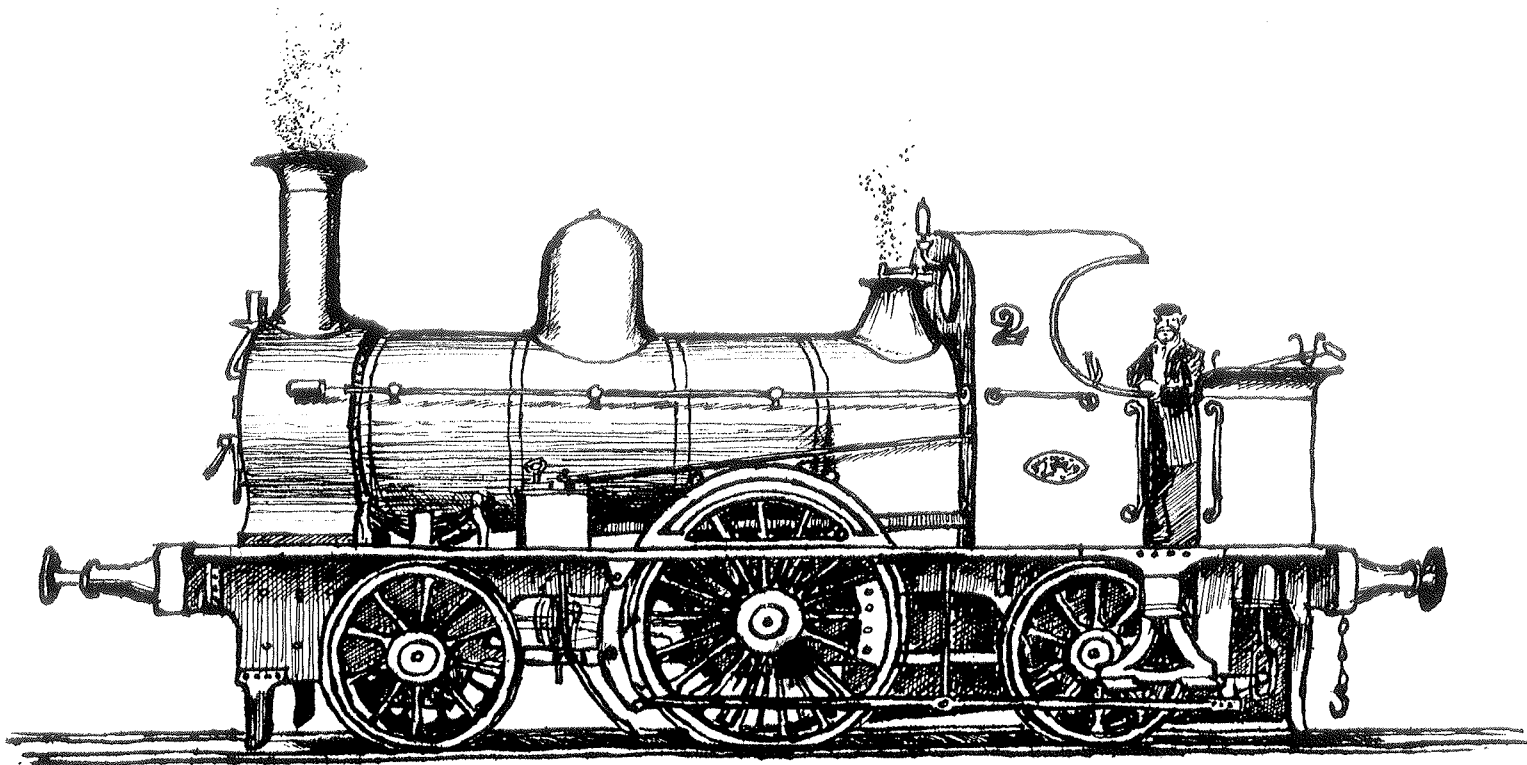
Both engines lasted to be absorbed into the Great Southern Railway in the 1925 amalgamation and they were allotted GSR numbers 483 and 484. No. 2 was scrapped at Waterford in 1926 without being renumbered. This was a shame as only about two months previously she had been fitted with a new firebox and tubeplates and was, after all, only 71 years old! No. 1 had previously been fitted with a new boiler in 1924 and carried on in active service until the fateful 24th of August 1935 when she was derailed and went down on embankment. The cause of the derailment was never fully established but was most probably due to buffer locking on the coaches. Fortunately there was not any loss of life and the general manager of the GSR instructed that the extensively damaged engine be salvaged, but by some unfortunate misunderstanding this was not done and it was cut up on site. But for this accident it might well have attained its centenary as it was a good little engine and quite capable of dealing with all but the heaviest Summer loads. At the time of the accident it was noteworthy as being the last single wheeler in regular traffic in Great Britain and Ireland.

I think that most would agree that one of these little engines would make an interesting model - even if it could hardly be called a great money earner to the Society. With the polished brass dome, light green body colour edged in black and lined in red - on the brown frames - it would make a colourful little model somehow reminiscent of a Victorian toy!

This little railway was amazingly unique in many ways. Although now closed, well into this century there were oil lit coaches glazed on the weather side only and several of the firsts were decorated externally with beading that followed the curved lines of a stage coach body. The station clock at Waterford was in the form of a big old grandfather clock and the locomotive superintendent carried out much of the repair work personally. He retired at over 80 years of age and augmented his modest salary by operating a boot and shoe repairing business near the station!

Don't forget that there were a pair of these well tanks and although no drawings exist, I made up a general arrangement drawing based on a photograph and a scale made from the known dimension of the driving wheel. With the inside cylinders having the valves between, its not going to be the easiest of engines to build - but of course you can leave the round file in the box as there are no coupling rod bearings to ease as required!

Don Paterson



WATERFORD & TRAMORE NO. 2 (CIRCA. 1900)

D. Paterson 12/84.

PERSONAL ACCIDENT INSURANCE
Details and Benefits

The Club holds Personal Accident Insurance, which covers all members as follows:-

Operative Time

Operative time shall mean the insured person is within or between Great Britain, Northern Ireland, The Republic of Ireland, The Channel Islands and the Isle of Man.

- a) At any meeting or function organised under the auspices of the insured.
- b) Travelling to or from any such meeting or function.
- c) At any private workshop or private track in the insured persons own grounds or garden whilst engaged in model engineering activities.

Lower age limit - 12th Birthday

Upper age limit - 75th Birthday

Benefits

Note. There are no benefits for medical expenses or temporary partial disablement.

Death	£250	(Ages 12 - 15)
	£4000	(Ages 16 - 75)
Disablement	£1000	(Ages 12 - 15)
	£4000	(Ages 16 - 75)

- a) Loss of two or more limbs or both eyes or one of each.
- b) Loss of one limb or eye.
- c) Permanent total disablement other than by loss of limb or eye from gainful employment of any and every kind.
- d) Temporary total disablement from usual occupation.

Nil (Ages 12 - 15)

£40 (Ages 16 - 75)

per week for a maximum of 104 weeks in all, not necessarily consecutive.

I hope that nobody ever has to claim but the above information is useful to know.

NEW MEMBERS

A big welcome to the following who have joined M.M.E.S. in the past few months :

- R.W. Harman. Service engineer from Frindsbury interested in steam and vintage restoration.
- Colin Thorndycraft. Retired electrical engineer from Frindsbury interested in traction engines and locomotives.
- Julia Mendes. Local government officer from Allington interested in locomotives introduced by existing member Les Hulbert.
- Roger Pridmore. Instrument mechanic from Sittingbourne interested in 0 gauge railways and live steam.
- Valerie Evans. Housewife from Aylesford interested in locomotives and introduced by husband George.
- George Barlow, B.E.M. (Associate Member) Retired locomotive driver from New Romney.
- Norman King. Police Officer from Bearsted interested in 4mm railways and live steam.

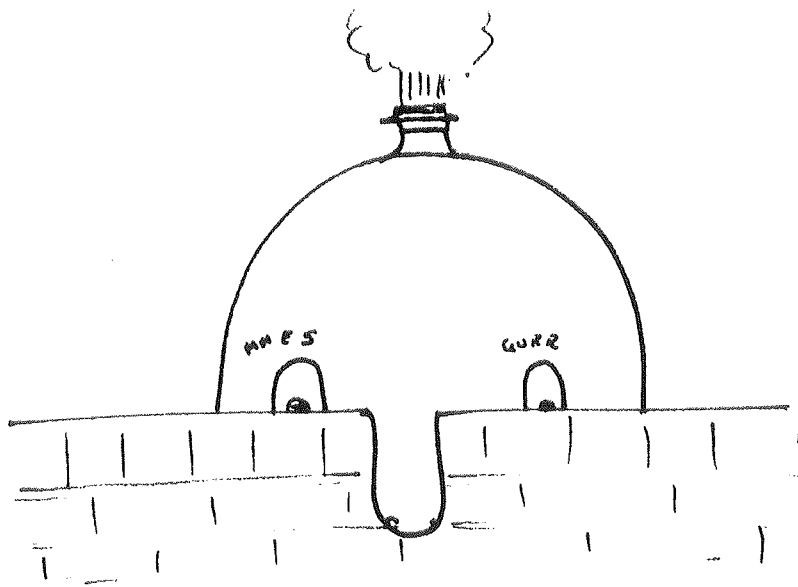
It's nice to see some more ladies joining the ranks!

HAVE YOU PAID YOUR SUBSCRIPTION YET ? IF NOT, IT IS NOW OVERDUE AND THIS IS YOUR FINAL REMINDER.

Tear off this slip and send to our Treasurer P Roots as soon as possible

I enclose herewith the sum of being my subscription to M.M.E.S. for 1995.
(£5 per person or £2-50 for retired members)

.....
name and address.



WOT NO TRAINS?

Someone suggested that I should write an article about something different, another subject, another interest. Things that would be of mutual interest to all MMES readers were considered and the only common denominators discovered were sex and money. Knowing little about the other I write about the one!

Money, a word used to describe tokens of international value for barter, procurement and service. Money has taken many forms but the need to possess it to hand in ever increasing quantities to satisfy our immediate needs in a world of distrust has brought forth the matter of this subject; plastic money.

In 1950 one Frank McNamara, an American multi millionaire, dined in a New York restaurant. As a mark of his wealth, he carried no money, his position gave credit and all his bills were so settled. The restaurant owner refused McNamara credit, perhaps having suffered by debt in the past and threatened to call the police if the bill was not settled there and then. Insulted and embarrassed McNamara had to borrow from his guests to settle the debt.

Determined that he would not lower himself to carry cash and equally determined to not find himself in such a situation again, he decided to issue a "general credit card" similar to that issued by the petrol companies for commercial users. Arrangement made, McNamara issued cards to his group of friends as a status symbol for the very rich who had no need for ready money. As a result of the restaurant incident he named this group the DINERS CLUB.

So fast has the plastic card revolution happened that in America today the use of cash is suggestive of a low grade person, an uncreditworthy risk. Many businesses will no longer accept cash and any who have visited the USA chain will already know that in general no credit card means no hotel room. The plastic card removes from the merchant the risk of determining a customer's honesty before allowing credit etc, avoids staff fraud and accounting for monies in and out. If the "client" fails or runs off, the card company pays.

cont.

Barclaycard brought the plastic revolution to Britian, in the 1960's and established some 100,000 outlets in restuarants, clubs and garages within a year or two. Hotels, airlines and railways quickly followed. Hot on the heels followed the American Diners Club and American Express with Access being formed some time later when the others had established a UK market. Acceptance was brought about by the original "exclusive" nature of the card, the visual show of income high enough to be issued one. However whilst it was somewhat more difficult to get the DC or AE cards, unless your credit rating was very bad few people who applied for a Barclaycard were ever refused and most of Access's original customers got their card whether they wanted it or not, through the post.

Of the better established cards in use in the UK only Barclaycard (VISA) and Access (MASTERCARD) are actually credit cards. American Express and Diners Club are charge cards offering no credit beyond the date for settlement. As such, charge card operators make an annual charge on their members varying from £10 - 15 for ordinary cards up to £50 for "Gold" cards, which in practise offer little more than extra prestige to the user.

Credit card operators earn a "commission" from the merchant varying between 1% and 5% dependent upon the trading size of the merchant. The company then bills the customer and attempts to encourage him or her to build up an account as high as possible within the credit limit and to pay back as slowly as is reasonably possible. Providing accounts are settled in full by the due date then no interest is payable but if it goes over by even one day, interest is payable from the date of the account till the date of settlement and all interest free period is lost. Interest can represent up to 30% per annum. Charge card operators make greater charges on the merchant but have a greater snob value as a higher earnings level is required for possession. Charges to merchants average 4% against 2.7% for credit cards. Having no interest income, the difference is met by the subscriptions, around £180,000,000 per annum from American Express alone.

When you hear or read that credit card fraud is costing the companies £15,000,000 per annum, you may wonder how they can ever afford this loss. Last year the Barclaycard/Visa group, alone turned over some £15,000,000,000 yes fifteen thousand million pounds alone and returned a 29% profit on capital resources: Barclays Bank itself renowned for its careful investments returned a mere 26%

Credit cards are the new form of money, virtually beyond government controls and riding roughshod over exchange restrictions and monetary controls. A piece of plastic is so much better after all you are not really spending money are you, just signing you name on a piece of flimsy worthless paper. Try not paying next time in the restuarant and perhaps you will have a new bright idea that will make you a multi millionaire!

Roger Stagg

Making the Most
of
Miniature Injectors
by
J.Ewins

" There is no doubt that injectors provide the most efficient means of feeding water into locomotive boilers". Thus commenced an article I wrote some 25 years ago entitled "Injectors, How they Work and Why they Sometimes Don't". This article originally appeared in the S.M.L.S. News. Subsequently it was reprinted in the S.M.E.E. Journal and finally parts of it were copied (without my permission) in the Model Engineer Vol 127 No 3192 13th Sept 1962 under the authorship of M.Evans.

The article attempted to explain with the minimum of technical jargon the scientific principles involved without compromising these by the loose use of everyday terms in a manner which characterised former attempts at elucidation by L.B.S.C. and others. I have some doubt as to whether the article was successful when I re-read it after a quarter of a century during which I have gained a deeper insight into the attitudes and abilities of those to whom it was directed. I feel now that a better purpose would be served if I had concentrated on how to employ injectors and recognise faults and limitations in them. Before going on to do this I should like to dwell a little on the manufacture of them. This an activity which is not everybody's cup of tea and trying to describe how to do it is an area where ----- angels fear to tread. It is significant that in the past practically no material has appeared from writers well experienced in actually making successful injectors. The one exception to this in this country is that of Mr C.M.Keiller*. The fact is that the design and manufacture of viable injectors is an operation which requires technical competence and practical ability in full measure. The cobbling together of articles from material gleaned from a variety of sources by authors who have not burned their fingers actually making and testing a wide range of examples can only lead to misinformation and the consequent frustration of those who seek guidance from such articles. It is characteristic of these efforts that such is the technical ignorance of their writers that they sometimes claim performance values which contravene the laws of thermodynamics! I have ^{seen} it claimed by a writer that one of his injectors continued to feed with input at 180°F. This is a physical impossibility. A competent investigator if he thought he had obtained this result would have made a double check to see where his observations had gone wrong. Full size cold water injectors will operate with feed water temperature up to 110°F with a usable range and the hot water variety with a special internal arrangement involving moving cones up to 140°F. Miniature injectors which fall into the cold water category can come very near to the above performance, - I have had them dealing with water at 110°F but with a very limited range. 180°F, - rubbish!

Injectors now available commercially vary widely in their excellence not only between maker and maker but also examples from the same maker. Mr E.J.Linden was the first to market consistently reliable products and all modern examples can be traced to his break-through in design. Unfortunately manufacturers today do not seem to have the knowledge and ability to achieve the reproducibility so necessary to be sure that their products will function as serious boiler feed devices. I think the main reason for this is that they are produced too cheaply. The last price I can remember Linden charging for his products was £3-10-0 and this was some 30 years ago. At today's prices this would come out at between £30 and £40 but one sees them offered at around £15 only at which price one cannot possibly expect sufficient attention to be given during manufacture to tolerances and testing to ensure consistency in performance. It is relatively easy to produce an injector that "goes" but to produce one that gives a definite and acceptable performance every time is quite another matter. It is

appropriate here therefore to consider the performance characteristics so necessary for reliable operation.

Injectors will only feed water over a limited range of steam pressures and feedwater temperatures. These two factors are to a degree interdependant in that the higher the feedwater temperature the more limited will be the pressure range, the reduction being at the high pressure end with increase in feedwater temperature. It is therefore necessary to have a performance by which reliable starting and feeding is obtained at the highest pressure likely to be encountered in practice. The best injectors measure up to the above requirements when supplied with steam and water unregulated by external valves, the necessary control being built into the design. The majority of locos work at a nominal 80 p.s.i. boiler pressure which may at times peak up to 90 p.s.i. or more so it is therefore necessary for reliable operation that the feed can be established against this pressure even when the feedwater temperature is at 80°F to 90°F. Unfortunately it is under these circumstances that many commercial injectors fail because to achieve this result a critical internal adjustment is needed.

The working range of an injector is capable of more than one interpretation. That which I consider to be most important is what I call the "dry range". This is the range of pressures through which the injector functions with no water running from the overflow the steam and water being unregulated externally. A satisfactory dry range would be 115 p.s.i. down to 50 p.s.i. with feedwater below 70°F. An alternative definition of range is that where some boiler feed is achieved albeit with some of the water falling onto the track and then only after jiggling with the steam and water valves. Unfortunately most commercially made examples operate like this over most of their range. The reason for my insistence on the first of these definitions is that whilst driving it is unsafe to divert ones attention to fiddle with injector controls. For the proper control of a locomotive one must be able to feed the boiler at appropriate points during the run to check undue pressure rise which should occur after a period of heavy output on an uphill section of the track. It is a fact that the dry range performance given above can be obtained as Linden showed by the critical design and careful manufacture coupled with proper installation. Commercial products are not consistent and home made ones based on published work sometimes fail because these instructions have not been followed closely enough or because these instructions are lacking. I suppose this all boils down to the Beatonesque entreaty 'first get your injector'. Having said all this I feel that many injectors are not made the most of because of the faulty way they are installed.

A feature of design which is even today given scant consideration is the property by which an injector will "lift" water before starting to feed. It was L.B.S.C. who put a round the idea that it was not necessary to have this lift because he was unable to get it at that time. It was Linden who found out how to obtain this property and it was quite a time before L.B.S.C. cottoned on. In the meantime he insisted that because full size injectors were not made to lift it was unnecessary for miniature ones to do so. This is just another of those myths which abound in model locomotive circles and are fostered by those who imagine that they only have to copy full size practice to get good models. The reason why this approach is flawed in this case results from the static head available in the feed water of the model being only about 1/12 that in full size. In consequence the initial flow prior to the steam being turned on is very little or zero if the injector is not making it impossible to get a start unless the injector will suck or 'lift'. The majority of commercially made injectors do not have this property sufficiently developed to cope with all circumstances and I have yet to see a published design which indicates that the writer is fully aware of the necessary steps to achieve this. Indeed I have a letter from Mr Keiller saying that I could not work injectors above water level because they would not lift sufficiently if the water in the feed line became hot. Those who have driven my 9F and the Riddle know that this is not true.

How then can one get the best from injectors which in one way or another are currently available? I propose in the rest of this article

to deal with aspects of installation which I have found to be conducive to 100% reliability. I do not suggest that this is ever attainable - it never is in any aspect of endeavour - but if two injectors which measure up to the above criteria are installed along the lines I shall indicate the chances of both failing at the same time is very remote, I have never had it happen in the past 25 years.

WATER SUPPLY

The first thing to establish is that this is adequate because if it is not the injector will operate with a lower than normal water/steam ratio which will result in the upper pressure limit being reduced. The method I use to check the adequacy is to disconnect the water connection at the injector and measure the flow rate with a stop watch and measuring vessel. The rate must be at least that which the injector is designed for even when the tank is say $\frac{1}{2}$ empty. A throttled supply can also lead to air being sucked in giving rise to spluttering at the overflow and in severe cases to complete failure. I always pipe up the water supply with rubber tubing which has the double advantage of one less union to be fiddled with and also reducing the heat flow back into the water line which can cause delayed starting and with some injectors no start at all. Another thing to watch is that the flexible connection between engine and tender does not become kinked by the relative movement here.

The water valve should have a clearway with no possibility of air being drawn in should it become necessary to close this partially. A design for such a valve is given in Fig.1 suitable for a feed rate of about 20 oz per min. With this design a parallel P.T.F.E. plug is used which does not stick whilst the "O" ring serves the double function of sealing and retaining the plug. As I have said good injectors do not need water control over a wide range of pressure but if your injector is not so good or if you require to feed at low pressure without overflow this valve design will be found to give smooth control with no sticking. Metal plugs are notorious for their sticking propensities and should be avoided.

For many years I eschewed the use of filters inserted in the water line because of their necessary small cross sectional area and consequent proneness to become blocked at short notice. It was when I purchased my present car that I noticed an in-line filter in the petrol supply which had been inserted merely by cutting the plastic tube. It occurred to me that this was an excellent scheme in the present context because one could change such a filter in a few seconds if it was thought to be blocked. The design I came up with is shown in Fig.2 and has proved to be very satisfactory. I always carry a spare clean one.

I feel that pumps, be they hand or axle driven are the cause of more injector failures than any other single effect. In the case of handpumps this is because dirt and coal dust gets into the water tank via the aperture through which the handle operates and in the case of axle pumps the bye-pass produces a rise in tank temperature which can be critical on a hot day. Additionally with both types leaking valves often allow direct feedback of steam into the tank. If one can master the use of injectors pumps become superfluous thus eliminating these adverse factors.

STEAM SUPPLY

It is not generally realised just how important it is to have an unrestricted steam supply, without this injectors will fail to give their best low pressure performance discharging some or all of the water onto the track. It is therefore important to check all points along the line for possible obstruction and in doing this do not be misled by blowing through a pipe or fitting by mouth and concluding that it seems clear enough. It may not be, for I have had trouble in a fitting which seemed clear enough by the mouth test but which was eventually found to be faulty because some jointing compound had formed an aperture .080" dia where parts of a fitting screwed together. Tests I carried out on an injector having a feed rate of 20 oz/min showed that a 3/16" thin walled pipe in excess of 2 feet long did not cause any noticeable reduction in performance.

Many designs of steam valves have been given by various writers and if one of these is employed it is necessary to check that when the valve is open there is a clear throughway of at least .008 square inches which corresponds to a diameter of 0.1 inches. I have now move away from the screw-down type of valve because it is so much easier to operate the push-pull plug type I have devised as shown in Fig.3. As I have indicated above, a good injector needs to have full steam admittance which this valve will give at a touch. With screw-down types one is never sure if the valve is fully open without unscrewing the spindle to its fullest extent. With the push-pull type a flick of the operating knob achieves this in an instant. Similarly it is shut off by a touch in the opposite direction the P.T.F.E. ensuring a tight seal. For realism an ordinary handwheel may be fitted to the spindle and left free to rotate. Valves I have made so far of this type have been arranged as shown in Fig.3 with the steam entry on the gland side which is contrary to normal practice. Although the gland is under steam pressure all the time I have experienced no difficulty neither with ordinary "O" rings nor with the P.T.F.E. rings of the type shown. To arrange things conventionally would involve additional complication which does not seem to be necessary.

DELIVERY SIDE

The main requirement here is to ensure no leak back at the clack valve and to have suitable freedom of flow. Here again 3/16" thin walled tubes are best used but I have had satisfactory results with 2 feet of 0.1" bore so it seems that things are not so fussy here. There is no doubt that clack valves having a resilient seating are best. My experience here with "O" rings is that if these are used in clacks screwed directly into the boiler their life is limited because the synthetic rubber does not like the temperature. After a few seasons the rubber cracks and leaks. There are two solutions to this problem either use P.T.F.E. seatings or situate the clack at some distance along the feed line away from the boiler. Clacks should have balls of at least 5/32" dia seating on 1/8" rings with a 1/16" lift. This lift is greater than usually specified for pumps because there is no chance of 'chatter' with the continuous feed from injectors.

THE OVERFLOW

The overflow port in an injector plays a critical part during the starting up process. When steam is turned on the feed water must be drawn into the steam jet and accelerated until it has sufficient velocity to complete the process of being forced into the boiler. This building up of velocity takes time during which there must be somewhere for the discharge to go other than into the boiler. In addition a vigorous suction must be established should for one reason or another the feed water be absent at the injector. It is vitally important therefore that there be the minimum of obstruction of the overflow. On no account use an extended pipe here but use one just long enough to direct the discharge clear of the injector and pipe-work. Extra long ^{pipes} can destroy the valuable lifting action of any injector.

SITEING

One of the most important aspects of installation is that of siteing. In my experience it is essential that a position be chosen which is readily accessable and, if the lifting properties are suspect, low down. If injectors are to be relied upon they must be kept clean and this is greatly facilitated if they can be got at easily. On this subject of cleaning commercial injectors should be avoided which have their steam and delivery cones forced in. Check when you buy that these come out easily and during use clean them regularly using formic acid (kettle descaler) or Jenolite.

THE INJECTOR IN USE

In order to make the most of any injector it is necessary to be able to recognise symptoms as they appear. As I have said, good injectors if

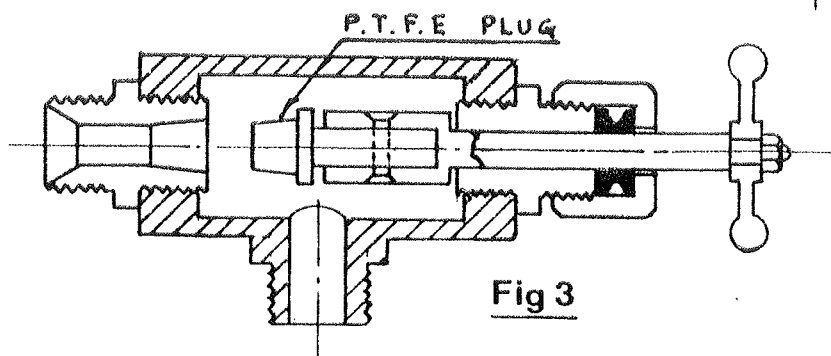
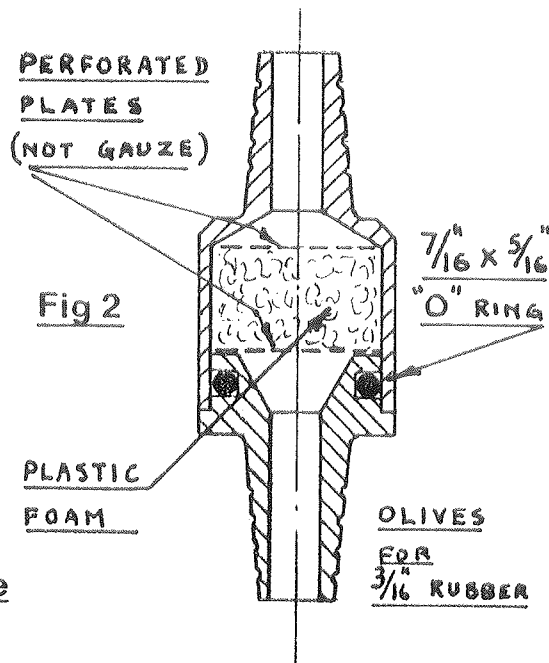
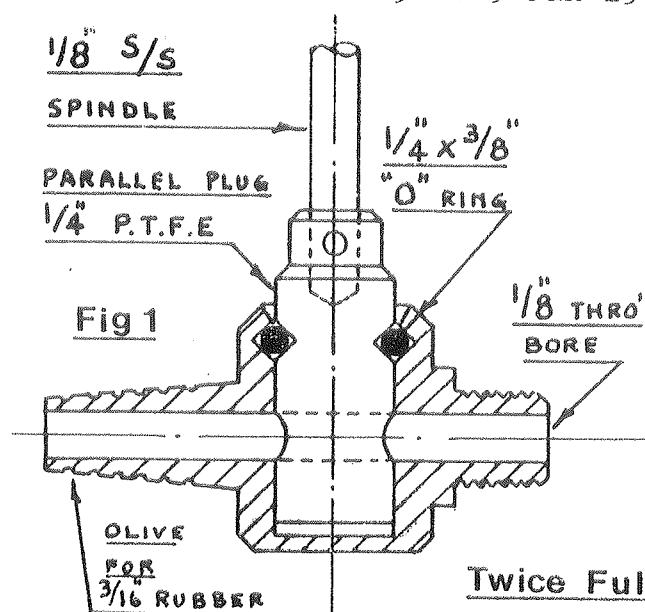
installed as here-to-fore will start and feed with certainty with both feed water and steam turned full on. One must be prepared to face the fact that even with the best conditions will arise under which there will be a struggle. Usually this is associated with warm feed water and high boiler pressure. I have previously in this series mentioned that faulty safety valves can exacerbate this situation by allowing greater over-pressure than the injector can handle with the warm feed. A commercial injector cannot be expected if it is intended for a working pressure of 80 p.s.i. to start readily at a combination of pressure and temperature exceeding 90 p.s.i. and 90°F. Even if they start most of the water will be discharged onto the track. A trick to get them going under these conditions is to flick the water quickly off and on (simply done with the valve shown in Fig.1). It is no good trying to judge the water temperature by poking ones finger into the tank, - it will feel cold anyway on a hot summer's day. A thermometer is the only safe way of checking this but in the absence of one when warm feed is suspected try re-filling the tank with fresh water. If an injector fails to pick up at higher pressures even with cold water i.e. below 70°F and has been installed as above the indication is that it has been adjusted for too low a pressure range. A symptom of this condition is a spluttering at the overflow as these higher pressures are approached and a complete "knocking off" with steam issuing from the overflow when its working range is exceeded.

Most commercially made injectors fail when they become hot due to leaking valves. This is because they lack sufficient suction as indicated earlier to draw the cold water through particularly in the face of blow-back through the delivery clack into the delivery cone.

I trust the above notes will help members to get the best from injectors be they bought or home-made. I feel that many a good injector has been condemned unjustly by being faultily fitted up.

* Model Engineer Vol 84 No 2094 June 26 1941.
Model Engineer Vol 88 No 2175 Jan 14 1943.
Journal S.M.E.E. Vol 3 No 5 Jan 1962.

(C) J. Ewins March 1985.



SUE'S SPOT

Well, here we are again on the brink of a new running season. The Club will be grateful for your services whenever possible, especially those of you with passenger hauling locomotives.

Everyone can join in on the Project of the Year (hopefully not century) which is the painting of the guard rail. There is a map of the track in the Clubhouse, and sections of the track have been marked. You are all invited to put your name down to do a particular section. All the materials and some paint brushes are kept in the Coal Shed. Basically, the programme is as follows : Rub down the guard rail, apply ~~Croda~~ primer, then apply the top coat of green paint. Please volunteer, with enough willing hands the job will not be too irksome but fun, and will not take too long.

If you receive a request to act as Traffic Controller, please do not ignore it. If unable to comply with the request then please contact Chris Williams as soon as possible so that a stand-in may be appointed. This is an important job and a list of the duties of the Traffic Controller is on the Club Noticeboard (next to the list of Boiler Testers).

Now to The Same Old Faces, the article that provoked a mixed reaction in the Christmas Edition of the newsletter. Many thanks to all those who took the trouble to write in with their views. The Committee has decided that the Chairmans Report (sent to you all with the A.G.M. minutes of 1984 and Agenda for the 1985 A.G.M.) concludes the matter satisfactorily and the subject is now closed.

During the winter months a fine body of men have been draining their strength in providing a new soakaway, now installed and operational. So no more blockages at the back of the Clubhouse now! One mishap that occurred during the extreme cold of this winter was a burst pipe in the Clubhouse. Our hard-earned carpet tiles were soaked through and the room was ankle deep in water. Had the weather been less inclement I would have been swabbing the decks in my bikini, but as it wasn't I didn't, much to the relief of those present. Everything has now gradually dried out, but we have now made it policy to turn the water off from the mains outside whenever we vacate the premises, just to prevent any further humidifying experiences.

Let me draw your attention to Martin's nuts. Our Secretary has a supply of various nuts and bolts at very reasonable prices so don't go paying over the odds elsewhere. A list of the stock held is on the Club Noticeboard (Next to the lists of Boiler Testers and Traffic Controller Duties).

Right, now onto a runthrough of the forthcoming attractions.

I advise you to bring plenty of money to the Bring and Buy Sale on Good Friday, as this promises to be the biggest and best sale yet. Jim Ewins has kindly agreed to take the hammer at the auction. Easter Sunday heralds the first running day as usual. On May 3rd, please all bring something to display for the Bits and Pieces Evening - for added interest, you are invited to participate in a competition later on in the evening for the best item, but this competition is not compulsory. As the prize will be a bottle of nice wine, I definitely will be finding something to enter!

The Wealden Pullman Trip on May 18th was fully booked within a very short time, but fortunately most of our members who wished to participate were allocated places. I shall be grateful if those lucky ones will send me the rest of the money due for the trip, being £8-50 per person, by April 8th at the latest. Tickets will be despatched shortly afterwards.

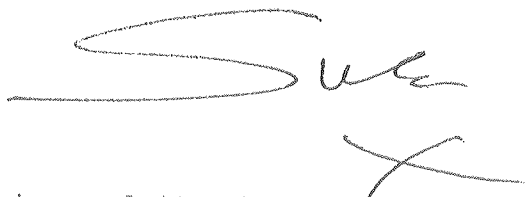
SUE'S SPOT continued

Sutton Club are coming to see us on Saturday May 25th for a run and barbecue. In June, a couple of days after my birthday (who, me? Drop hints?!) on June 7th we have the first M.M.E.S. evening run and barbecue. Chelmsford Club are holding their Open Days on June 15th and 16th - please let our Secretary know if you will be attending any visits to other clubs - in particular, for Chelmsford you will need to book. Friday July 5th is the preparation for our own Open Day - again, all hands on deck please! There is always plenty to be done to get everything ready for the Big Day on Saturday July 6th. Please bring items for display, and ladies your help is required on the catering and kitchen front on the day. ("Any volunteers to organise this?" asks the writer hopefully, but resigned at the likelihood of being the one to co-ordinate the food again.) People have been known to reorganise their holidays so that they do not miss our Open Days. August and September Club Nights will be held but the events have yet to be arranged. We will be returning to Sutton Club on August 31st and let us hope it does not rain on us this time! On Saturday September 7th Romney Club are coming to us and Sunday September 15th is the opening of the Sheppey Club Track. There is a Southern Federation Rally at Tonbridge on Sat. September 21st.

Any other happenings of interest that you may wish to sojourn will be posted on the Club Noticeboard (Next to the lists of Boiler Testers, Traffic Controller Duties and Stock of Nuts and Bolts).

My thanks to all those who contributed to and assisted in any way in the production of this newsletter, another bumper edition. Please keep those articles coming, it gives you all something to read!

May I wish you all a steaming summer and I look forward to seeing you all.

A handwritten signature in dark ink, appearing to read 'Sue', with a large 'X' mark below it.

P.S. A copy of this newsletter is on the Club Noticeboard (Next to the lists of Boiler Testers, Traffic Controller Duties, Sock of Nuts and Bolts, Other Happenings etc.....)

P.P.S. Have I forgotten anything?! Hope not!

