Maidstone Model Engineering Society

Christmas 2004 Newsletter

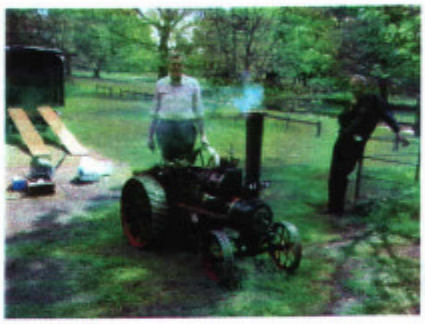
SEASONS GREETINGS

January: 75th Anniversary Lunch

February: Preparing for new Traverser

March: The AGM and Treasurer's Birthday

April: Track stolen



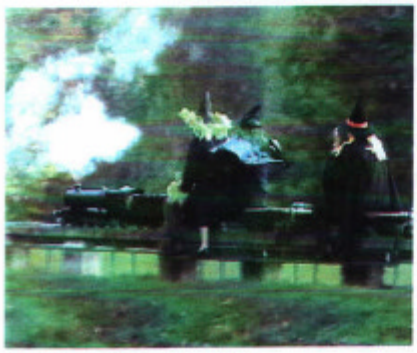
May: David Chalk tests his tractor

June: Blackpool, the S.H.I.T. Week

July: Tom teaches Marie to drive

August: Julia steams her lorry

September: 75th Anniversary & Rally



October: Halloween Run

November: Sparklers at the Chilli Run

December: Boxing Day Run (last)

SUE'S SPOT

Martin calls this a picture of an old bag (yes it's me)

Well, here we are again, folks, another year is soon to bite the dust, Christmas is looming fast, and as usual I find myself pressed for time, space and stories. I will gabble through what has happened during the past year, and what is in store for next year – club-wise, that is. Who knows what is just round the corner for each of us individually, but let's not get too deep, just get on with it Parham!

Okay, so here goes:

The year 2004 saw the Club celebrate its 75th anniversary, celebrations starting with a Sunday Lunch in January at the Grangemoor Hotel – so popular, we're doing it again this year. More on that later. Much work was done on Sundays and by the old geysers on Wednesdays, so that the new trolley store, bays into it and the new traverser were completed by the spring. Much has already been said about the theft of a third of the track at the time, which was a demoralising blow to us all after so much hard work through the winter. But we were back on track by the spring, only out of action for around six weeks, bad enough, but again back on track through the efforts of the workers. We know who you are, in fact some of us know where you live, and please accept at the very least the thanks of all those in the Society. Without our workers where would we be? I think the answer to that could be: not existing as a society very well.

So summer arrived, and the 5th annual holiday for M.M.E.S. members know as the S.H.I.T. Week (Sue's Holidays Including Trains Week) and a bit more about that later on in the newsletter too. Arrangements continued apace for the Southern Federation Autumn Rally being held at Maidstone for only the second time in thirty years, and this arrived very quickly in September. A report of this will be in the Model Engineer sometime and another write-up plus pictures is in the current edition of the Southern Federation Newsletter (dated November 2004), yes, written by yours truly. I have yet more reports on the occasion to write but it gets more difficult writing about the same thing but not, if you know what I mean (you're rambling again Parham, cut it out…). The weekend was a lot of hard work by many, a success of course, but there were fewer visitors than anticipated for the Open Day. We'd cancelled passenger hauling that day as well, so visitors wouldn't be inconvenienced and expected to raise money for our club just for the honour of running on our track…. However, little thanks to the borough council, who charged such an astronomical figure for caravans staying overnight in the Park that we felt we could only partially pass the fee onto the caravaners, plus M.B.C. didn't provide or even offer the most basic facilities. Later that month the promised donation towards the replacement track finally arrived from the K.C.C., so the county council are worthy of our appreciation.

KCC cheque presentation

So winter is here, there is a flip chart in the Clubhouse with a list of ongoing tasks to be done, but nothing major, we're having a bit of a rest after all the hard work we had over the year. The old geysers continue to do their bit on Wednesdays, and Sundays we all still get together and carry on. So what's lined up for 2005?

Well, firstly the Club Night on the first Friday will be a look back over 2004 (copies available on DVD for £5 or video £2), not to be missed. Then the last two Sundays of the month we actually ***won't*** be at Mote Park – on 23rd January we are sharing a coach with Tonbridge Club to the Exhibition at the Alexandra Palace. There are still six seats available, so please contact Martin if you would like to go, as soon as possible. Price includes your entry ticket and fare, a very reasonable £15. For the same price the following Sunday you can have an excellent meal at the Grangemoor Hotel – please let Pat Riddles have the money, and your menu choices, by Sunday 9th January at the very latest, as we have to let the hotel know. If Pat, or Geoff, is not around, Martin or myself will do.

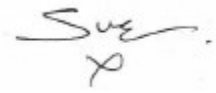
February sees Quiz Night upon us again, and the rivalry intensifies, will someone beat Paul this year? Last year he was Quizmaster, but this year it's Mike Wallace and Roger Vane setting the questions. There are prizes for the winning table. The AGM is as usual at the beginning of March, and the last Sunday in March it's back to business as we shake off the winter blues with the start of public running. April Club Night – yes, bring anything to sell you don't want, but if nobody else wants it, take it home with you again! Wednesday afternoon playtime runs start again on the third Wednesday of the month. Although we sometimes run other Wednesdays if we feel like it, the third Wednesday of the month through the summer is the official run. We're considering having a "Family & Friends" running Saturday in the summer – if there is enough interest – when family and friends, supervised of course, can get more involved, and maybe have a drive. Whatdyafink?

May Club night – fish 'n' chips and pudding for a set fee – even if you want, say, sausage and chips instead, the price is the same – it makes life much easier, and if the Club makes a few pence (it certainly wouldn't be more than that) then jolly good show. Bring and show us what you've been spending your time on in the workshop all winter. June sees the start of the summer evening runs on the first Friday of each month. Plus of course the week of Sue's Holidays Including Trains, this year it's Hampshire, not so far as previous years. In August it's our visit to North London Club at Colney Heath.

October, and winter approaching, the last public running day is at the end of the month. Friday Club Night, and bring your photos taken down the Park of trains this summer, we'll all vote on the best one, which will win a bottle of wine. Something different for a change, we can but try! Which brings us around to December and the Boxing Day Run. All additional events or any alterations will be posted on the Club Website and Club Noticeboard. Next newsletter will be around Eastertime (end of March) so please let me have those articles as soon as you like!

Must just mention that Spark Arrestors are now only mandatory for passenger hauling (us little engines are pleased about that). If anyone else wants a Club shirt please see me. Or just a badge sewn on an existing shirt, please see Ann or Marie. Have I covered everything? Is it Christmas yet? Do I come here often? Time to get this all printed and posted I think. Oh, mustn't forget to thank all contributors – including souls like Dave Fenner who e-mail me "funnies" from time to time I sometimes get to share with you.

Have a wonderful Christmas, and a great new year, stay healthy,



Recently, I was diagnosed with AAADD: Age Activated Attention Deficit Disorder.

This is how it manifests:

I decided to wash my car.
As I start toward the garage, I spotted the post on the hall table.
I should go through the post, and pay any bills, before I wash the car.
I lay the car keys on the table, put the junk mail in the rubbish bin under the table, and notice that the bin is full.
So, I put the bills back on the table and take out the rubbish first.
Since I'm going to be near the postbox at the end of the drive when I take out the rubbish anyway, I might as well pay the bills first.
I see my cheque book on the table, but there is only one cheque left.
My extra cheques are in my desk in the study, so I go to my desk, where I find the bottle of juice that I had been drinking.
I'm going to look for my cheques, but first I need to put the juice aside so that I don't accidentally knock it over.
But the juice is getting warm, and should be put in the refrigerator to keep it cold.
Heading toward the kitchen with the juice, a vase of flowers on the counter catches my eye.
They need to be watered.
I set the juice down on the counter, and find my reading glasses, for which I've been searching all morning.
I had better put them back on my desk, but first I'm going to water the flowers.
I set the glasses back down on the counter, fill a container with water, and suddenly spot the TV remote.
Someone left it on the kitchen table.
Tonight when we sit down to watch TV, we will be looking for the remote, but nobody will remember that it's on the kitchen table.
I should put it back in the lounge where it belongs, but first I'll water the flowers.
I splash some water on the flowers, but most of it spills on the floor.
So, I put the remote back down on the table, and get some towels to wipe up the spill.
Then I head down the hall trying to remember what I was planning to do.

At the end of the day:
the car isn't washed, the bills aren't paid, there is a warm bottle of juice sitting on the counter, the flowers aren't watered, there is still only one cheque in my chequebook, I can't find the remote, I can't find my glasses, and I don't remember what I did with the car keys.

I'm trying to figure out why nothing got done today; it's quite baffling because I know I was busy all day long, and I'm really tired. I know this is a serious problem and I'll try to get some help for it, but first I'll check my e-mail.

Do me a favour, will you?

Forward this message to whomever you think might enjoy it, because I don't remember whom I've already sent it to.

THE TALE OF "WONKY" THE LITTLE STEAM ENGINE

'Twas a misty Sunday morning
The day of Halloween
That youngsters aged to 70
Were busy raising steam.

Up comes a tinplate loco
Of German make as well
They hadn't seen one since a boy
It's age no one could tell.

In the club they tried it's motion
They pushed it to and fro
When up spoke an engine driver
"Come on then, make it go!"

So rails were clipped together
The track for it to run.
No thoughts of health and safety
For this is lots more fun.

Some water "just a spoonful"
And Meths for heat as well.
The wicks were lit, I will admit
The safety valve will tell.

It's little shiny boiler
With paint from black to rust.
Is on the boil with more hot oil
So its Full Ahead or Bust.

With gentle shove it started
Midst hiss of steam and chatter
As round and round a spell was wound
And time; it didn't matter.

With aches and pains all passed away
Their locos unattended
The looks of joy from every boy
Remained until it ended.

So back up to the attic
In a box that's safe from dust.
Just gently oiled and carefully wrapped
To keep away the rust.

Some day someone will find it
Although it's not "The Cream",
It would do it's best to show the rest
"The Glory that was Steam".

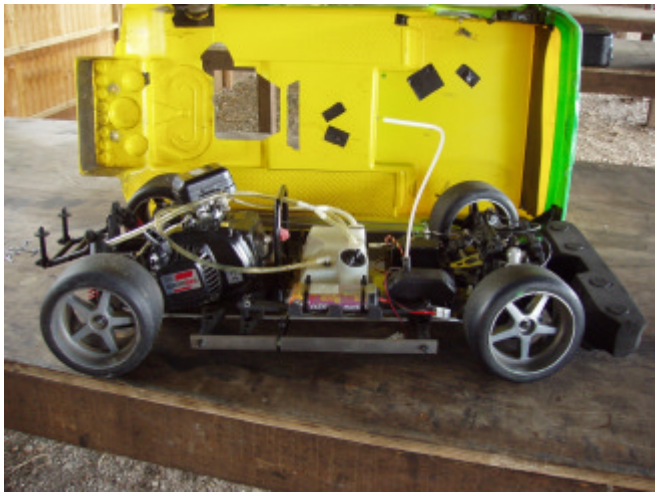
P.S. It's all so plain and simple, a pot boiler at its best,
As you all know, we let it go, without a Boiler Test!

Royston W. Harman 2004

DAD COMES IN USEFUL AGAIN *by Edgar W.Playfoot*

My Son Christopher called round the other day. My usual greeting is 'Hello, what do you want to borrow,' or, 'sorry I haven't got one!' However I am now revising this to: 'Hello, what have you broken this time?' My son and his family only live a few miles away yet it seems we only see him or his family when they have a use for us.


Christopher



Chris and my grandson Craig (13 years old) have taken up truck racing – miniatures that is. They have been racing electric miniature cars for some time but are now racing with i.c. petrol engines.

One Saturday recently Chris 'phoned and invited my wife Ann to go along with him and see their trucks running. He didn't ask me as he thought I wouldn't be interested. But I invited myself and went along for the ride.

After about an hour in the car I recognised Rye, which we passed through. A short while later on the Camber road we turned into a farm with small industrial units. Here was a splendid purpose built miniature racetrack, which I estimate took up an area about half that of our rail track at Mote Park.

It really was very impressive. The track was very smooth tarmac, white edged with borders of neatly trimmed grass. The main track was a long oval with several linking routes. The main oval was contained with a neat fence and trees, which contained several marshall boxes.

Centrally on the entrance side was an elevated covered stand from where the drivers operate their miniature vehicles by remote radio control.

To either side of the main control stand are ten or more large tables all under cover where the model cars are assembled and tended.

When we arrived a model car was cavorting the track at a very high speed but obviously expertly controlled.

My son and grandson unloaded their trucks (one each) with attendant toolbox which dad and granddad helped them carry. A table was selected (steaming bay to us) and the models and gear placed upon it. (*Please mister can we have covered steaming bays at Mote Park!)* The mechanics were checked over, as was the radio control equipment and a crystal selected. Petrol/oil mixture was added to the tank. I didn't notice them using any heaters for the tyres (slick) but apparently they have just the same problems with grip as the full size racers.

My grandson Craig went first. Chris carried his truck through the gate into the pit lane and with a lively tug on the pull cord (just like a strimmer) the engine burst into life.

Craig disappeared up into the control stand and his truck started off gingerly at first. He entered the main circuit and proceeded clockwise (Opposite to us at Mote Park). Normal circuit for trucks is clockwise with a diversion from the main loop into an internal loop before regaining the main loop. Cars do a slightly different circuit to the trucks. Initially Craig seemed to be having a few problems with several spins and short cuts across the grass. He had excuses ready, the track and tyres were cold!

He was probably right because a few laps later things were warming up. He was taking bends with controlled drift and the song from that motor accelerating down the straight was music to ones ears. The smell was almost as good. Clearly some sort of racing oil additive was being used in the two-stroke fuel.

On Sundays they have race meetings with up to ten models racing. This must be quite something to watch and the sound from ten miniature engines. I will have to take a day away from Mote Park to watch this.

After probably a dozen or more laps, Craig brought his truck into the pit lane and asked his dad to tune the engine a bit. Wasn't going fast enough! His dad took it into the 'steaming bays' took the one-piece vacuum moulded body off the chassis and fiddled with the engine. He also adjusted the brakes which are disc and very much used.

Back goes the body and back to the track. Now did that truck go! Chris tells me that the average lap speed is over thirty miles per hour. So I guess it must be doing up to sixty mph down the straight, which I find pretty impressive for a model about three feet long.

Chris now started his truck and joined the track. He too took a while to get the feel of the track but it wasn't long before they both were hurtling round. Craig had one major spill requiring fire engines and ambulances to be dispatched (not really, just being silly). But they are surprisingly robust and no serious damage was done.

However, that's where dad and granddad can be of use in repairing those bits that get broken. The chassis consists of a slab of aluminium which having become banana shaped on one occasion I carefully straightened with my hydraulic press. The next time it got bent Chris straightened it by jumping on it!

Now at the end of this season both Chris and Craig have amassed a fair collection of trophies and the like (*a bit like our B*…..) to such an extent that the room for display and storage is becoming of concern.

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I WANT MY HOLIDAY!

The 23 members of Maidstone Model Engineering Society on holiday at Wigan

This was the response from Adrian Gurr on being told, in early December 2003, that he had brain cancer and only six to nine months to live. Adrian loved his annual train holiday in June each year; with a group of friends from Maidstone Model Engineering Society (who run the model railway in Mote Park) they visited a different part of the country each year for a week to run their steam locomotives on other tracks. This was known in short as a S.H.I.T. Week; the S.H.I.T standing for Sue's Holidays Including Trains organised by Adrian's friend and ex-wife Sue.

By early June Adrian was very poorly; six weeks of intensive radiotherapy ending in the middle of April had led to a fortnight's care at the Heart of Kent Hospice, but since returning home his health had steadily deteriorated. He was confined to a wheelchair as he was able to walk only a few paces, he felt lousy, his head was confused and his eyesight failing. He was beginning to have doubts that he could manage the holiday, his big ambition, all he had talked about in the last six months to anyone who would listen.

However, his willpower to make the holiday was matched by the determination of his friends who were going to make sure that he had the holiday that was so important to him. A few days respite at the Heart of Kent Hospice worked, and armed with the necessary drugs, instructions, phone numbers, details of local doctors, hospitals and pharmacies, and a letter from the Hospice in case of need, the group set off for Lancashire.

A stop was made at an overnight Travel Inn near Birmingham, about half way, so the 280-mile journey was split over two days. The club stayed at a caravan site in Longridge, and Adrian had a caravan for disabled people. Two couples took it upon themselves to be his chief carers, and took it in turns to spend alternate nights with him, and saw to his every need. Adrian was by this time on a high dose of steroids with appetite to match, so this sometimes meant cooking him porridge at three in the morning! As he was now diabetic, sugar was avoided, and careful note was made of all his blood sugar readings, all he ate and drank, any symptoms, and a timetable of the drugs was carefully completed as well, in case all this information was required if he became unwell.

Adrian and tram at Blackpool

Sunday found the club at the Windmill Farm Railway at Burscough. Adrian had a footplate ride and enjoyed every minute. Monday was Haigh Hall Park in Wigan, and Adrian had a ride behind one of his favourite locomotives. Tuesday, off to Moss Bank Park track in Bolton, where Adrian loved being pushed around the butterfly farm and seeing the creatures at Animal World. Wednesday it had to be Blackpool – a tram ride from Starr Gate to Fleetwood, and then back to the Golden Mile and up the Blackpool Tower.

Thursday he was obviously not so well, and concerned by the way his blood sugar was climbing, even with medication and care with his diet, the team rang the hospice for advice. Later in the day, Adrian ended up in Rochdale Hospital for a few hours, as during the afternoon his blood sugar had suddenly rocketed. Most unhappy to be there, he gradually improved, his mates pleaded with the medical staff, more pills were provided, and much to their relief he was released. The medical staff could see, from the careful notes made, they were really looking after him. Friday morning he had a blackout for a few minutes. Again the Hospice was contacted, and medical staff put on standby ready for his return in case of need. However, after the day at the Leyland Track, Adrian enjoyed the end of holiday dinner with everyone, and on Saturday returned home with no further mishaps, although very tired.

Adrian had done it all, cared for by his faithful friends every step of the way.

Adrian driving his engine in 2002 at Mote Park, Maidstone

The story does not end there – not wanting Adrian to feel there was nothing left after his holiday, the Sunday saw him taken to the Romney Hythe and Dymchurch Railway where he had a short footplate ride there. After lunch he watched the locomotive he had built driven around the track at Mote Park. On Tuesday he returned to the Heart of Kent Hospice, armed with pictures and video of his holiday, and here he has spent the remainder of his days. But even then his beloved family and friends have taken him out at every opportunity, until this was no longer possible. He has done all he wanted to do – and how many people can say that?

But when you care, then the very *least* you can do, for someone who has a terminal illness, is to match his or her courage and fortitude. And to give them every enjoyment possible in the time they have left.

Adrian died peacefully, on 2nd August 2004 following a brave battle against brain cancer. Words cannot express the depth of sadness we feel at his loss. The Hospice were wonderful in caring for him up to the last moment, making sure the end was peaceful and his family were there. We are all so very grateful to the Hospice, its dedicated staff and volunteers, for everything.

A happy Adrian on the footplate of *Winston Churchill* at the Romney Hythe & Dymchurch Railway

And I'm proud of those members of M.M.E.S. who were always there for Adrian. Especially those who shared his last holiday, which wasn't an easy task for anyone. Many thanks from his mum, sister, brother and nephews.

Sue Parham.

NEW MEMBERS

We welcome the following new victims, sorry, I mean new members to the Club:

Julia Old, from Rochester, an Avionics Chartered Engineer, who has completed a 2" scale steam lorry and is building a 4" scale Burrell, pictured on the newsletter cover for the month of August;

Chris Phillips from Pratts Bottom, a computer programmer, model making activities are 3½" and 5" gauge steam engines;

Marie Hawkins, from Sittingbourne, an ex teacher, quilt manufacturer and engine keeper (that's what she wrote!) and wife of committee member John Hawkins, part of the APSC (Ann Playfoot's Sewing Circle), pictured on the newsletter cover for the month of July;

Chris Hawkins, from Teynham, a Technical Support Engineer, interested in all steam locomotives (P.S. He wired up our new signals, so we were never going to say "no" to him joining). And he's Son Of John and Marie Hawkins;

Roy Dufresne, from Folkestone, a semi-retired construction supervisor part way through a 3 ½" gauge Canadian Pacific Railway locomotive;

Jason Bradshaw, from Maidstone, a support worker, who has joined in order to learn new engineering skills and use them to build his own model;

Jim Puttifer, from Maidstone, a retired mechanical engineer, built his first model (a Stuart 10v), but hasn't had time to do any more until now, being in his retirement, and so can start again;

Bryan Edwards, from Maidstone, a toolmaker, building a 4" Maclaren Traction Engine;

Steve Hopkins, from Sittingbourne, an analyst/programmer, and son-in-law to John and Marie Hawkins.

Tim Southby (rejoined), from Maidstone, who with a friend has recently bought and rebuilt a 4" Agricultural Foster Traction Engine "Artemis", and spends many weekends at the Moors Valley Railway in Dorset.

I haven't got everyone's mug shot so I'll try and put them in the next issues of the newsletter. There is no truth in the rumour that the Hawkins family is taking over the asylum, I mean, the club. The more members for the society, the merrier!

How Do You Measure It? Try This For Size

In the Summer Newsletter, Vic raised questions regarding the nature of electricity. Perhaps I can help him with the following explanation.

When a wire carries an electric current, there is a magnetic effect on the space around the wire. With a voltage between the wire and earth, or between two wires, there is an electrostatic effect on the space around the wire. A direct, as distinct from alternating, electrostatic effect is experienced when clouds charge with electricity and then discharge as lightning. The lightning discharge is an electric current and the impulse travels at as near the speed of light as makes no matter.

Consider now the wires used in an overhead pylon route and think about the space around them. That space is subjected to high magnetic and electrostatic effects and the electrical energy carried by the pylon route is not carried in the wires. The energy is carried in the space around the wires!

Instead of 50 Hz frequency as used in the mains, try 10,000,000 Hz generator is connected to Earth, the other to a metal rod about 20 ft. long, set vertically. The energy sent up the rod will radiate outwards as radio waves, travelling at the speed of light. When speaking of light, please include heat radiation, ultra-violet and x-rays as well as radio and T.V. transmissions, all travelling at the same speed in space.

As for the experimental measurement of the speed of electricity in a wire, the Earth underneath the wire acts as a mirror so the magnetic effect and the electrostatic effect can be calculated using the theory of two parallel wires. The speed of travel of electricity, which is less than the speed of light, can be calculated.

Readers by now will be bored and asking "What is the point of all this?" Well, in the early days of telephone communication, conversations over a long distance were so distorted that they could not be understood. The high frequency parts of speech travelled faster than the low frequency parts. The telephone wires had magnetic effect L, electrostatic effect C, electrical resistance R and electrical leakage between the wires G. For all frequencies to travel at the same speed, $LG = RC$. Coils were inserted in the telephone wires at suitable intervals to increase L and remove the distortion.

As for electrons "turning round and shoving one another", think about a long steel rod. Hit one end, square on, with a hammer. The compression impulse travels to the far end of the rod and an expansive impulse is reflected back to the end struck by the hammer. The atoms in the rod "shove one another then turn round and pull one another". If you can relate to that, then electrons and alternating current should give you no problems.

Now to the remainder of the questions. Condensed steam consists of tiny droplets of water. These reflect the daylight, generally seen as white light. They can also refract and thus split up the light, so get your condensed steam between yourself and the sun and look for a rainbow.

White light, which we receive during daylight hours, contains every possible colour. A red object will absorb all the colours in white light except the red, which it reflects. Coal absorbs all colours and reflects none, so is black.

We can see air, which is violet in colour. Look at a distant hillside. The green of the grass is replaced by pale violet because the air, several miles thick, has absorbed the yellow from the green, transmitted some of the blue and added violet light obtained from the sky. For more information, see your local friendly painter.

Animals have pairs of limbs to prevent them from having the same problems as the telephone wires where the distortion is caused by propagation difficulties. These would lead to extinction.

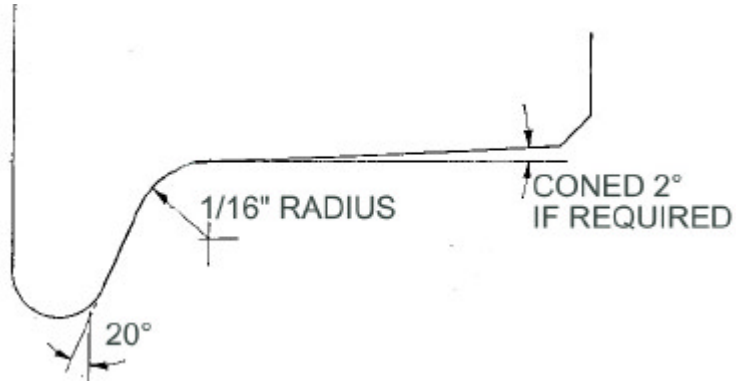
I ask to be excused from the jelly question on the grounds that I am a vegetarian.

Peter Jackson.

PS Vic asked some very intelligent questions in his article. The transmission line problem requires the solution of a pair of simultaneous second-order differential equations, which is past A-level Mathematics, so I have omitted that. I hope this article will help Vic, but should he have further difficulties then by all means encourage him to write another article.

ARE YOUR WHEELS UP TO STANDARD?

Our bylaws require that all rolling stock will have flange and tread profiles that do not cause undue wear to the rail. To achieve this please ensure that the wheels of your locomotives and trolleys are machined to the required standard particularly in relation to the flange profile. The side of the flange nearest to the rail should be machined to an angle of 20° to the vertical and should meet the tread with a radius of at least 1/16". If you wish to cone the treads of the wheels, these should be at 2° from parallel.



Martin Parham.

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TABLES & OTHER ODDS & SODS by Vic R.

Recently coming across a freebie wall chart from the M..E. prompts me to offer the following useful (?) trivia what rny 'umble self has found to be of some use from time. Do with it what you will, you may even want to check my metham, mather, sums, to see if I have got it right. However, neither the writer or the editor, the Committee, Uncle Tom Cobbley and anyone else you can think of, can be, will be, may be, possibly be, held to be responsible for any use to which you might put the information, nor the ever growing rejects in your scrap box!

M.E. TAPPING & DRILL SIZES

Size	Decimal	Threads per inch	Clearance Drill	Tapping
1/8	.125	40	30	37
5/32	.156	40	22	1/8
3/16	.1875	40	12	5/32
7/32	.218	40	2	3/16
¼	.250	40	F	7/32
9/32	.281	40	K	¼
5/16	.3125	40	O	9/32
3/8	.375	40	V	11/32
3/8	.375	32	V	R
7/16	.4375	40	11.5mm	13/32
7/16	.4375	32	11.5mm	R
½	.5	40	13mm	15/32
½	.5	32	13mm	29/64 (F)

Tip: When tapping into a "blind hole" it is sometimes beneficial to use a one size larger tapping drill. A general rule when tapping a through hole is to use a drill 3 sizes smaller than the finished tapping size.

Now, if you are a metric thread (wo)man, and I'm not (a metric user I mean), then the next set of sizes may make some sense to you. It certainly doesn't mean much to me; I just cribbed it from an American magazine. Sorry about the copyright – so sue me!

METRIC THREADS & TAPS

Thread	Nominal Size of Thread	Major Diameter (mm)	Pitch (mm)	Leaded Dia.	Tap Drill Brass Thread	Steel & Copper Dia.	Steel & Copper Thread
Coarse	M1.4	1.4	0.3	1.2	62%	1.2	62%
	M1.6	1.6	0.35	1.3	79%	1.4	53%
	M2	2.0	0.4	1.6	92%	1.7	69%
	M2.5	2.5	0.45	2.1	82%	2.2	61%
	M3	3.0	0.5	2.5	92%	2.6	74%
	M4	4.0	0.7	3.4	79%	3.5	66%
	M5	5.0	0.8	4.2	92%	4.4	69%
	M6	6.0	1.0	5.0	92%	5.3	65%
Fine	M3	3.0	0.35	2.7	79%	2.8	53%
	M4	4.0	0.5	3.5	92%	3.6	74%
	M5	5.0	0.5	4.5	92%	4.6	74%
	M6	6.0	0.75	5.3	86%	5.5	62%
	M7	7.0	0.75	6.3	86%	6.5	62%
	M8	8.0	1.0	7.0	92%	7.3	65%
	M10	10.0	1.0	9.0	92%	9.3	65%
	M11	11.0	1.0	10.0	92%	10.3	65%
	M12	12	1.0	11.0	92%`	11.3	65%

Here is another load of old cobblers, facts that may just catch your interest. If for some obscure reason you might, like me, attempt to double up the size of a component which has holes and threads in it, you will find that a circle, twice the size of another circle, is not actually multiplied b 2, but from the area multiplied by a factor involving that mysterious figure "Pie", or 22/7, or 3.142, or 3 and $1/7^{th}$. To make life a bit easier I thought I would be clever (nobody loves a clever b…) and devise a short computer program in Basic to carry out an otherwise grotty chore, so I reproduce it for you as follows: -

```
10 REM "This is a program to allow the user to double up the area of any circle"
20 REM "The area of a circle is – diameter squared, times 0.7854"
50 PRINT "input the diameter, d
60 input d
70 LET d=d*d
80 LET A=d*0.7854
90 PRINT "The area of the first circle is" A
100 LET B=A*2
110 PRINT "The area of a circle twice that of the first is" B
120 LET C=B/0.7854
130 LET D=SQR (C)
140 PRINT " a circle with twice the area of the first circle diameter d, has a diameter of "D
```

Next comes the bit that you will have to do yourself! Having found the diameter of the larger circle you will have to look up in your tables (such as the Zeus precision data charts), the nearest easy measurement to that thrown up by the program. Let me give you some examples: -

		Ins			Nearest "easy" match	
No.	58 Drill	(0.0413)	=	0.05841	No.	53
	53 Drill	(0.0591)	=	0.0836		45
	52 Drill	(0.0630)	=	0.0891		43
	50 Drill	(0.0709)	=	0.1003		39
	43 Drill	(0.0886)	=	0.1253		$1/8^{th}$
	41 Drill	(0.0965)	=	0.1365		29
	33 Drill	(0.1122)	=	0.1597		22
	1/16	(0.0625)	=	0.0839	No.	45
	3/32	(0.0938)	=	0.1326		30
	1/8	(0.1250)	=	0.1768		16
	3/16	(0.1875)	=	0.2652		17/64
	15/64	(0.2344)	=	0.3315		'Q'
	¼	(0.2500)	=	0.3535		'T'
	3/8	(0.3750)	=	0.5303		17/32
	½	(0.5000)	=	0.7071		45/64
	1	(1.0000)	=	1.4142		1 & 13/32
	5 B.A.	(0.1260)	=	0.1782		16 or 2 B.A.
	10 B.A.	(0.0669)	=	0.0946		3/32 or 7 B.A

When we come to threads it's a bit more hit and miss: -

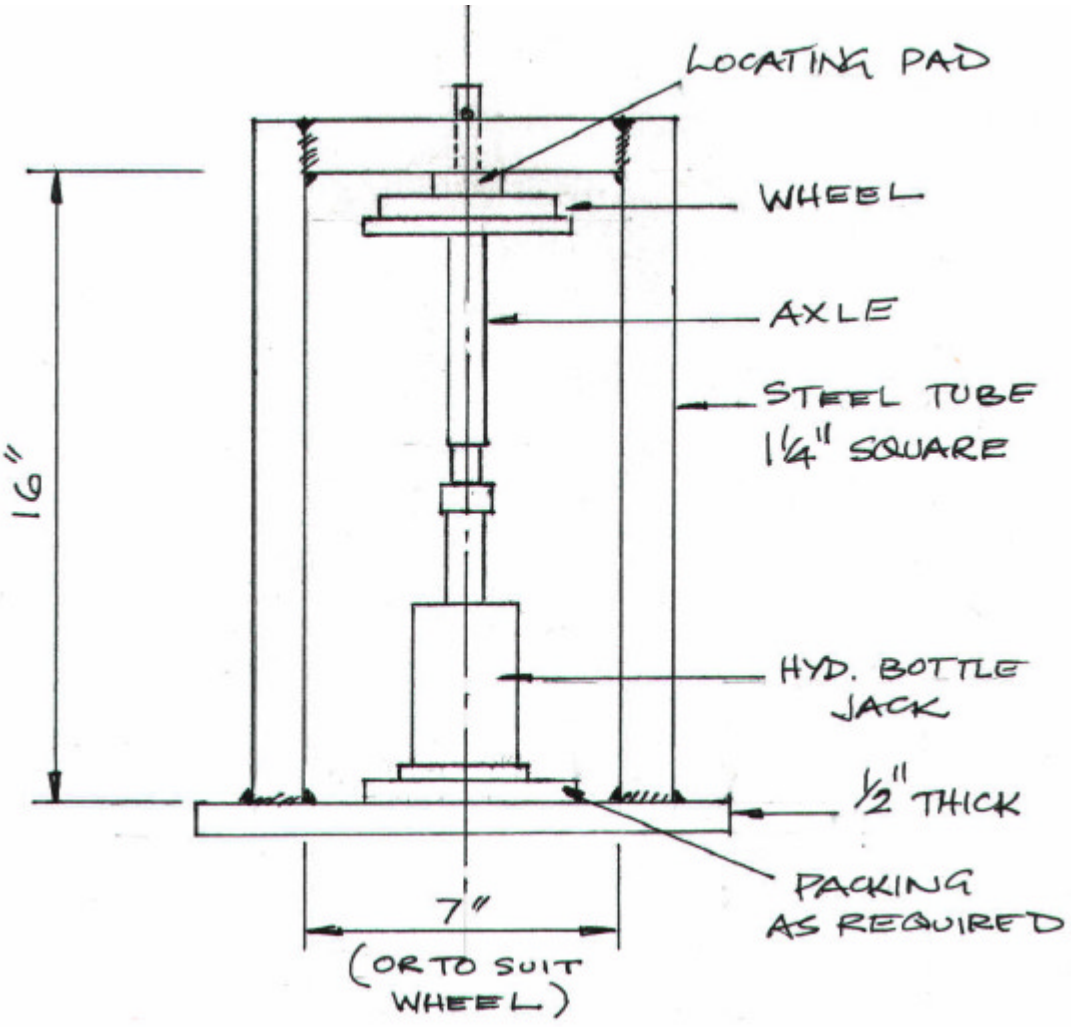
¼ x 40	(0.2500)	=	0.3535	3/8 x 32
3/16 x 40	(0.1875)	=	0.2652 (17/64)	9/32 x 40
3/32 x 60	(0.0938)	=	0.1326	5/32 x 40

Don't forget that if you feed the dimensions in using inches, the answer will be in inches. Likewise, enter in metric, the answer will be metric. I'm afraid I can't get on with those "fiddleymetres".

THE NEXT PROJECT (continued at last)

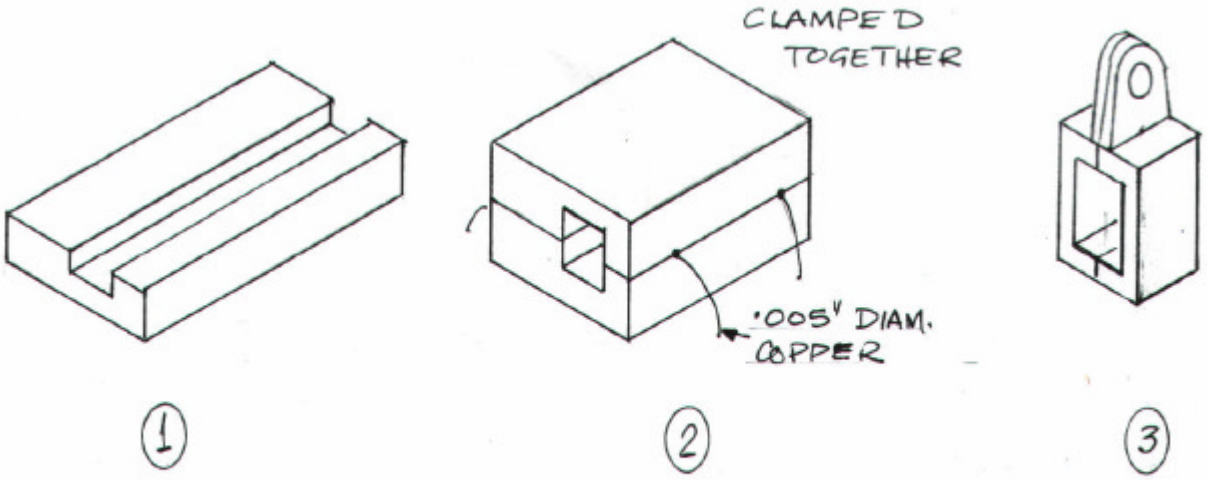
2004 has been very busy for the active members of MMES, culminating with the S. Fed. Rally and 75th anniversary celebration in September. Home workshop time, consequently, has been severely limited and progress minimal. Before machining the wheel castings, a mounting spigot or stub is required. A piece of ¾" diameter M.S. bar was welded to the end of an old No.2 morse taper stub. After removing the chuck and blowing out the swarf, the stub was knocked into the headstock spindle and then turned down to 11/16" diameter. The stub was then used as a gauge as all the wheels were bored out until a firm push fit achieved. When turning down the ends of the axles (between centres), I make the diameter about .001" larger than the wheel spigot to give a force fit. To force the wheels onto the axles, a jig was used as made for previous jobs. The jig is basically a welded up goal frame and utilises a small hydraulic bottle jack as shown in sketch.

The extreme ends of the axles were reduced in diameter slightly to give an accurate lead in for pressing on.



The length of the loco leaf springs worked out at 3¼" between the eye ends. A simple jig was made to assemble the top leaf and this consisted of two pegs inserted into a steel plate at the required centres. The end eyes were thus held in position while the leaf was silver soldered on. I find it's better to rusty up the pegs to prevent the solder going somewhere other than intended. A buckle holds the centres of the leaf springs together and the method used to assemble these may be of interest to anybody making something similar.

A slot 5/8" wide and 3/16" deep was milled in a 4" length of 1½" 3/8" M.S. bar. This was then cut in half and silver soldered together, forming a rectangular hole 5/8" x 3/8". There is a trick that I use to successfully join two bits like this together. The two halves are cleaned and fluxed in the usual way, but before clamping together, two strands of copper wire (cleaned from flex) about .005" diameter are put between the two faces of the joint. This leaves enough gap for the silver-solder to flash through to complete the joint. The bar can now be cut into lengths to fashion individual buckles, in the case of the 'C' Class loco, sufficient for three items.



STAGES IN MAKING SPRING BUCKLES

To be continued sometime

J.B.

GRUMPY OLD DRIVER

Why is it that on a Sunday morning when I leave home at about 9.50 for a gentle drive to Mote Park, all the weekend nutters are waiting to cut me up on the roundabouts, and have you noticed that a lot of the new cars have faulty turn indicators that only work some of the time?

And another feature I have noticed on some cars is that there is a cross connection between accelerator and brake, where the brake lights come on automatically as the car stops accelerating. This clever device works whether going up hill or down. My garage man tells me that brake drums are now made smaller and discs thinner so they wear out quicker. This devious ploy by the carmakers ensures they sell more spares. And when you go to get a spare part they haven't got it in stock, so you have to order it, so that's two visits.

Perhaps all the cars should be on rails like trains, this would alleviate the necessity for turn indicators and free up the hands for eating sweets, fruit or using the mobile and making rude signs to other drivers.

Anyway, having arrived at the Park entrance, what about the sign at the Park and Ride 'Sorry not open on Sundays'. Are they really sorry? Of course not, for the sake of brevity the sign could read 'Closed Sundays'. There's too many signs littering the side of the road, do you ever think, 'is that sign really needed, or did they order too many, or perhaps they're on some productivity bonus?'

And what about chucking the Sailing Club out? Are they sorry about that? Developing their clubroom and storage area will be a nice little earner and new Sailing Club facilities will gobble up another corner of the park.

And what about the new trees planted next to the road a few years ago? What bright spark positioned them so close to the road that within a few more years they will obstruct vehicles and need pruning or cutting down?

And on our last public running day this season, well after four o'clock when we were clearing up and it was damn nigh dark, a family turned up and asked: "are you giving rides today?" "We finished at four, you can come back Boxing Day, weather permitting, and otherwise it's March next year". That told 'em.

Merry Christmas.

I. Mertwitt.

FLYING FOR DUMMIES

Every take-off is optional. Every landing is mandatory.
If you push the stick forward the houses get bigger. If you pull the stick back they get smaller. That is unless you keep pulling the stick all the way back, then they get bigger again.
Flying isn't dangerous. Crashing is.
It's always better to be down here wishing you were up there, than up there wishing you were down here.
The only time you have too much fuel is when you're on fire.
The propeller is just a big fan in front of the plane used to keep the pilot cool. If it stops, watch the pilot sweat.
When in doubt, increase your altitude. No one has ever collided with the sky.
A 'good' landing is one from which you can walk away. A'great' landing is one after which they can use the plane again.
You know you've landed with the wheels up if it takes full power to taxi to the ramp.
The probability of survival is inversely proportional to the angle of arrival.
Never let an aircraft take you somewhere your brain didn't get to five minutes earlier.
Stay out of clouds. The silver lining might be another aeroplane. Reliable sources also report that mountains have been known to hide in clouds.
Always try to keep the number of your landings equal to the number of your take-offs.
You start with a bag full of luck and an empty bag of experience. The trick is to fill the bag of experience before you empty the bag of luck.
Good judgment comes from experience. Unfortunately, experience usually comes from bad judgment.
In the ongoing battle between objects made of aluminium going hundreds of miles per hour and the ground going zero miles per hour, the ground has yet to lose.
Helicopters can't fly; they're just so ugly the Earth repels them.
It's always a good idea to keep the pointy end going forward.
Keep looking around. There's always something you've missed.
Gravity is not just a good idea, it's a law. And it's not subject to appeal.
The three most useless things to a pilot are the altitude above you, the runway behind you, and a tenth of a second ago.

From the Daily Mail 4/6/2004.

A WINTERS TALE

One bitterly cold winter, a little sparrow had spent two nights out with only the scant shelter of a tree. He decided that he could not survive the third night, so he left the tree to find better shelter. As he flew, he got colder and colder until his little wings froze solid and he fell to the ground. As he lay freezing, he realised that the end of his life was nigh. He prayed for death to come quickly when, suddenly, in his semi-conscious state, he had a feeling of being enveloped in a warm covering. He regained consciousness and found that a cow had made a luxurious deposit all over him. The new lease of life and the supreme comfort made him very happy, and he started to sing. A passing pussycat heard the chirping, located the heap, and carefully removed the pooh to reveal the little sparrow, which it promptly ate.
There are three morals to the story:

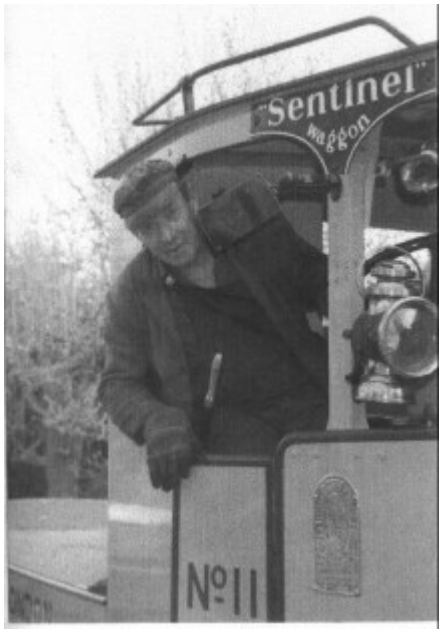
1. If someone poohs on you, they are not necessarily your enemy,
2. If someone gets you out of the pooh, they are not necessarily your friend,
3. If you are in the pooh and happy, then keep your mouth shut.

RV

WHAT PUTS THE "OOMPH!" IN A SENTINEL

by Norman King

(pictured).



Well, put two Sentinel steam lorry crews together on any rally field and the question will be asked, "HOW DID YOU STEAM?" or "WHAT COAL ARE YOU USING?" The reason is because of what is sold as steam coal. However, very little is suitable for burning in steam lorries or railway locomotives because of the type of coal it is.

Before everyone jumps up telling me all about Heat Calorific values that are advertised by the suppliers and coalmines, you have to consider what it is being mined or sold to be combusted in. There are some 30 Coal Mines still supplying steam coal in the United Kingdom, but this is for burning in modern boilers or steam generators, which do some strange things for efficient and complete burning, and combustion, ensuring the maximum heat, without pollution being exhausted up the chimney. Like all stories, you have to start at the beginning. So once upon a time "Alley and McLellan", in Glasgow, invented a steam driven waggon called a "SENTINEL".

This was by turning the steam boiler on its end, making the flue tubes take water instead of gases, and at 90 degrees to the fire, with lots of new technology, and refinements that made it go faster than other steam wagons, and costing less to run. One initial cost secret was GAS coke, which was the unwanted by-product of domestic coal gas, which was used for cooking and lighting. The only other use was in blast furnaces as the amount of coke produced far exceeded that required. Sentinels saw the opportunity of cheap fuel in a plentiful supply. By the use of coke to generate steam, the fire requires less stoking, and burns less to cover the same distance as coal, at a slightly better overall speed. Coke burns at a more even rate, starting to burn at 800 degrees Fahrenheit and increasing up to maximum of 3000 degrees Fahrenheit. When burning efficiently, it should he incandescent (that's white hot). Things did not last, as the demand for coke went up, so did the price, matching that of coal. So with some slight adjustments, the Sentinel waggons were adjusted to use steam coal. Those recommended were "NIXON'S Navigation, PENDOR" or a similar Welsh steam coal, lumps the size of a man's fist, in fact many good grades of steam coal, were widely available. It should be noted that all Anthracite coals are unsuitable, as they reduce to powder and clog up the grate. When using coke the fire needs to be thicker than when burning coal.

Up to the end of steam railway locomotives in the nineteen sixties steam coal was readily available, and of medium to hard quality coal. So it was readily available at any railway coal yard. During the process of combustion the lumps expand, creaking open, looking something like a cauliflower. This is the coal turning into coke, (which it would do if it was being cooked in a oven, instead of being burnt). Correct combustion can only be obtained by bringing together the right amounts of coal and air, steam coal consists of: - 75% carbon, 8% oxygen, 5% hydrogen, 11.5% nitrogen, 0.5% sulphur, and what is left, 10% ash. Please

note: - 1lb. of carbon completely burnt to carbon dioxide produces 14.550 B.TH.Us [British thermal units of heat]. For coal to burn correctly it requires 22% air, which is a mixture of 23% oxygen and 79% nitrogen.

Combustion in the SENTINEL boiler is on primary air through the fire grate, as the fire door is on top of the boiler, making it impossible for any secondary air supply through the fire door. The ideal boiler pressure is between 225 and 250 lbs per square inch, depending on which type of boiler is fitted. With the safety valves set within this range, a temperature range of 397 to 405 degrees Fahrenheit of saturated steam will be obtained. The temperature is raised by steam passing through a super heater to about 750 degrees Fahrenheit. This gives the boiler its ideal pressure, there are two types of super heaters found, the early single coil, and the later double coil, which increases the steam volume by 30%. This consequently reduces the demand of steam from the boiler, resulting in saving of water and fuel. Because the area of a SENTINEL waggons grate is just over one square metre, it makes firing and the management of the fire fairly critical.

During the early twentieth century, foreign coal became cheaper to purchase than that mined within the British Isles; therefore large users started buying what saved them money, gaining an advantage over their competitors. The Royal Navy in 1913 changed from coal, because of advances in OIL burning technology, which greatly saved the manpower required and time in recoaling ships. They then decided that all new ships built would be oil fired, and considered if to convert to oil burning when ships were refitted. In the nineteen twenties and thirties the government became involved in protecting jobs that safe-guarded its own interests, and therefore subsidised the cost of coal mining within the British Isles. With other world events coming along, the cost of coalmining went on hold for some years.

So it was not until the late forties that we saw the start of the end for coal, with the introduction of the first clean air acts that restricted the burning of fossil fuels, forcing the burning of smokeless fuels. This was to eradicate smog, which could be so thick that visibility was down to 4 metres, (that's 13 feet). The legislation was spread over a number of years, because of the financial cost. The governments target was 20 years, by making fossil fuel burning systems efficient, and strict controls on the emission of pollution into the atmosphere. The air quality improved, over the years, becoming quite noticeable by nineteen sixty. The final act was being planned for implementation that would do away with steam locomotives on the railways. Well, there was very strong resistance against change, because of the large number of jobs that would be lost in the railway industry and mining.

It finally came to pass in nineteen sixty-eight, and sixty-nine, the world did not end, but coal yards did. They started to become hard to find, and within a couple of years they were no longer found to be associated with railway stations or goods depots. These changes cause a decline in the amounts of coal being mined, and also how it was combusted. This meant that other coals could be burnt in steam generating plants, and air pressure used, and even water, plus lots of other tricks of science engineering. This included even burning coal dust, in an untreated state, (this was originally made into little brickets). Even putting scrubbers up the chimneystacks (no these are not ladies doing their cleaning tricks).

Like all things in this world, suppliers and mines were quick to advertise most smokeless coal as suitable for boilers, the only information left off was the word domestic. Many other twists in advertising were made in an effort to keep coal's monopoly in domestic fuel supplies, well this never happened, because of cheap oil, and with the coming of North sea gas, which is a natural product, and a clean burn. Also oil and natural gas undercut the price

of coal with the cheap recovery costs, against that of coal. What would the domestic fuel supply have to do with the availability of steam coal that is suitable to burn in a SENTINEL waggon? Well, it all comes down to size, and hardness.

To find the coal, who mines it, and how to obtain the quantities required, one course was writing to every mining company for the details and specification of the types coals mined, within each coalfield. About five types of coal come from each coalfield. Well over thirty requests were made, and in due course piles of paper turned up. This had one big drawback, from all this technical information, searches and assessments were made for a suitable steam coal, after much searching it came down to 6. The only thing to do was find a source of supply, simple, don't you believe it**.** The big stumbling point was the coal merchants, like most businesses, they only stock items they can sell within a short space of time, or it's "sorry we are out of stock waiting for a delivery in a couple of weeks time". This is hopeless when you want to use a steam lorry, also the costs they endeavour to charge, as the cost of 10 kilograms is about £3-50 in a sealed plastic bag.

The other way, which was favoured by myself, involved checking coal suppliers at rallies, preserved railways, and digging around coal heaps, and inquiring who the supplier was, and where the coal was mined, also the trade name it was sold under. Another good idea was talking about coal supplies with other crews in the evenings. They are quite talkative once they have been fed and have had a few beers, although not all that was said is repeatable. Some of the information was quite surprising, in relation to the quality of coal. Rally suppliers would acquire coal at the lowest price as rollers and traction engines will run on any poor coal, or rubbish. This leaves those with Sentinels, needing to make steam when roading lorries to and from rallies, with the problem of bad steaming, and having to mix coals (that's putting good quality steam coal with the cheaper ones to try and improve the steaming).

Well, one soon arrives at the situation when all that's left is the cheaper coal, and the aggravation of trying to make the waggon steam properly. This is excellent for harmony between driver and fireman, and making friends with other drivers on the road, as they normally form a nice orderly queue behind you. This gives you a lovely clear road ahead, but no steam pressure, so you can use a Sentinel to its full potential. We have been clocked at 45 MPH. on the A23 in a SUPER SENTINEL, which is a good road speed (steam lorries do not have speedometers). Some following drivers do however insist in showing how fast their cars can accelerate, and where they learnt to drive at a certain Japanese driving school. Occasionally, you see the look of fear on the face when they get it wrong and pull back in again.

One interesting mine was found in the South Wales, it would supply any quantity of coal, which could be collected from the pithead. Without any organisation I found myself volunteered to take a Sentinel owners 5-ton diesel tipper lorry, for a day out to South Wales armed with CASH, which results in a discount. It turned out being a wonderful, but a long day out, sun shining and a radio that received BBC 2, with a friend's son for company. After a suitable breakfast, the lorry, with us on board, was weighed in, and we were given a ticket, and directed to a queue of lorries. Ours was only a baby one, compared to the others waiting, mainly 38 tonners. Well, our turn soon came round, and we were loaded with coal, the lorry settled down on its springs, then back we went onto the weight bridge. The first weight is taken from the second, giving the quantity of coal loaded, less 5% dust allowance. The cash was handed over; it was not as painful as if it was mine.

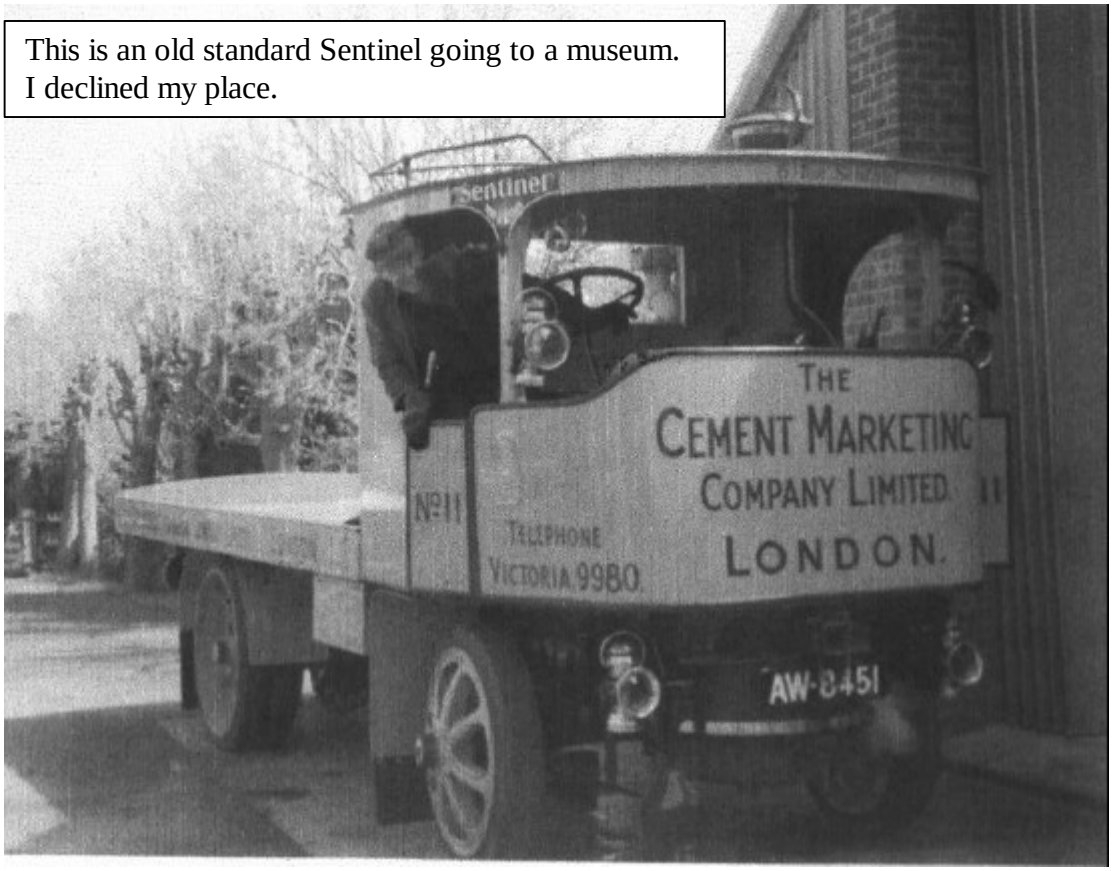
The journey home seemed to take forever, acceleration very slow, the hills seemed twice as long, and the lorry was hard work to drive. Still, it was fully loaded; also it's classed as historical, someone said like me. They eat their words when it comes moving coal with a

shovel, 5 tons of coal equals one hundred sacks at one cwt each, or if you like two hundred sacks of ½ cwt. Each. Correct, the management did not have enough sacks, or a suitable place to store the coal, so half stayed on the tipper.

The consensus of opinion on the coal was that it was first class, of good size, with very little dust, and gave an excellent burn, a nice even incandescent glow. It produced a good steaming pressure that was easily held, and less coal was used than normal. The drawbacks were that it was no good for lighting the fire; it was necessary to use house coal to get it alight, then change over to the steam coal and stoke the fire until the required pressure was reached. The most important drawback was the cost and what quantity you needed to make it cost effective. The calculation was done on a scrape, and later a computer, gave the answer the same, 38 tons. This, for lots of reasons, made it non cost effective - where would you store that quantity, and how long would it take to use. The answers made it a non-starter, but at least we had found good steam coal.

The other course taken by myself in finding steam coal, at rallies, and heaps of coal, and interrogating other crews, over the summer proved more fruitful. Coal the size of cobbles (your fist), seemed to be available whenever we were near a steam operated railway. They were purchasing coal direct from a supplier who imported coal from the Poland Russian border, by the boatload, at a cheaper price than the U.K.

Well, it could be organised to purchase one ton when you were rallying in the right location, or collected from a preserved railway. Alternatively, if you were desperate, they would sell you some. Resulting from my enquiries I also found out that it could be delivered in large white bags (like those used by builders) ½ ton, which saves humping or shoveling, if placed on the back of the steam waggon.



This is an old standard Sentinel going to a museum.
I declined my place.

THOUGHT FOR THE DAY.

My son, never a creeper be, for in truth, if the tree is felled, the creeper also falls.

Phil O'Soffer

A WRY SENSE OF HUMOUR

Notice seen in an ironmongers window — "If the person who kindly removed a roll of roofing felt, from the display outside the shop yesterday, would like to call in to see the manager, they will be given a bag of clout nails free of charge".

HOW DO THEY?

Talking to a fellow member the other day whilst cable laying I got to thinking (this doesn't happen very often you will no doubt agree). How do the cable manufacturers get the plastic coating onto the wires and then into the outer sheath, together with those annoying strands of cotton? Surely they can't mould them, as the coating would stick to the wires. They can't pull the wires through, can they? If you've ever tried to pull the wire out of the sheath you can understand why I think it's not a feasible solution. Any ideas?

Thinking again (it must be a red letter day and a blue moon). How do they get ball bearings round? Some would say not as round as we would like. I know they must do it by some form of centreless grinding, but what is the shape of the original blank? I know allowing molten lead to fall from a high tower into water forms lead shot and the cooling effect solidifies the molten droplet into a rough ball shape, but they couldn't do that with steel could they? Incidentally is there a working or redundant shot tower anywhere in our neck of the woods? It would be interesting to be able to visit, and might make a nice model to boot. I think a visit to a ball bearing factory might also be illuminating. What about nitrile or viton balls, are these moulded? Answers on a £10 note to the writer please. (It might stop him from writing any further crazy thoughts.) Come to think of it (oh, no, not again) wasn't there a paper factory near Chartham that made bank note paper!

Vic R.