The Chairman's Notes

As I cough my way through yet another batch of antibiotic I have been staying away from any activities, which may aggravate the situation. As a result I am becoming highly skilled at sitting in front of the TV watching railway videos, fiddling with gauge 1 locomotives in the {heated} workshop and in general keeping a low profile. The chairman's spouse sees no improvement in what she regards as already highly tuned skills. She further feels that the fact that I practice them at home rather than Colney Heath is not all that beneficial to her life style.

Peter Shewry is another member who is changing his life style and is moving from Potters Bar to Halesworth in Suffolk where he is in the process of buying a bungalow. Peter has been a member since 1992 when he joined the Club with a particular interest in the 00 Section. Peter's father was a pioneer of 00 in the 1920s and Peter has often displayed his father's delightful scratch built models. I am glad to hear that members of the 00 Section have been helping Peter to restore these little locos to working order prior to his move.

Many members will of course remember Peter not for his 00 activities but for his teas at the Colney Heath working parties, and we will miss him. I might also add that Peter often used to stand in as the tea steward on summer running days when the designated stewards failed to show up. We will all miss you Peter and on behalf of the Club I would like to wish you, your wife and your family every happiness in your new home.

Finally the Childs Hill School Special Unit have asked if we will entertain them on the afternoon of Thursday 3rd July and on your behalf I have agreed to do so. These autistic children look forward to this visit and I have never seen anyone enjoy themselves more at Colney Heath than do these kids on their day there. This will be their third visit and I'm sure that it will be as well supported as the last two. So put the date in your diary and I guarantee that you will enjoy your day as much as the kids will.

John Squire

From the Secretary

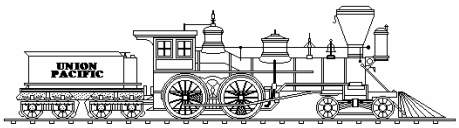
Numerous invitations from other Societies have been received for us to attend their various events – details in the Coach.

One more birthday party has been booked – July 12th.

I am pleased to say that I have received the first nomination for the Council – where's yours??

Don't forget Annual General Meeting on 2nd May 2003.

Tony Dunbar



The Woodside Union Railroad Co

Invites You
to the General Meeting
on
Friday April 4th at 7.30 for 8.00pm at HQ
to participate in a
Grand Running Evening
Of the Railroad
With You in the Driving Seat!!

In other words the North American Section invites you all to come and play with our railroad – See the latest in electronic control systems, which is complete with….. I'll let you guess!!

Treasurer Twittering (and Subs).

Nothing unusual to report this month – your Treasurer is busy doing the books ready for the year-end and the Auditors.

Subs are rolling in nicely – thank you to all the willing early payers.

- Bernard Lambert

Tyttenhanger Gazette
By Roger Bell

The March Loco meeting was entitled 'My workshop – Members Reminiscences and Discussion', and was chaired by Mike Chrisp. The inspiration for the meeting came a few months ago when we chatted about our workshops, the machinery we have and the tools we use.

Many of us have milling machines, and due to a misalignment one of us spoke of having to replace three sets of lead screw and nuts within three years. This raised the query; how is the wear measured in a lead screw? The three wire method was described where one short wire is placed in the 'vee' of the thread on one side and two short wires in two of the 'vees' opposite. A micrometer is used to measure the diameter over the wires. Knowing the diameter of the wires and the angle of the thread, a trigonometrical calculation is made to determine the wear. The easier way is to use tables supplied for the purpose.

Where we have a hardened steel crankpin running with a phosphor bronze bush it is common belief that the bush will wear away and only that need be replaced. In fact the bush being soft absorbs all the muck, which then wears the crankpin.

Mike has letters and E-mails every day from model engineers dissatisfied with their mill or lathe that has worn out after short use and replacement parts are not available. It seems that you get what you pay for and whilst a mill drill costs about £700 if one pays twice as much it will last longer. One can pay over £8000 for a new Myford lathe which have over the years become the standard by which all others are judged. 300,000 have been sold and it is still a family business. It was felt that a 'Warco' machine is quite good enough for most of us. Otherwise for those who know what they are looking for, they would be well advised to buy second-hand. Some quite large substantial machines can be bought at a reasonable price and where they are ex industrial a converter can be fitted to allow running on single-phase supply. One view was why spend thousands on a machine when we do not have the skill to use it? On the other hand, someone new to turning and working on a worn machine would not know whether it was their lack of skill or the machine that was at fault.

One story told came from De Havilland Propellers where many employees worked for their entire career. Each man had his own lathe and when he retired it would take the new turner a long while to produce good work on it. A similar story involved an automatic machine where it was thought the operator just pressed the button. When he left the work would not pass inspection and the operator had to be asked back to help them out. It seemed that the coolant temperature was too high amongst other things.

The stories followed. A young lad of nine years started to work for Watson's from home. Eventually he joined the firm in its factory and worked there until he was sixty-five. On his last day he was called to the Managing Director's office and thanked for his services. 'Would you like a cigarette,' the MD asked, only to find none in the box. The employee gave the MD one of his. All he got was a thanks and a miserly pension.

Bert M. spoke of how his interest started and the equipment he has used. His first workshop in 1935 was 12ft x 8ft. He used a Tyzac lathe supported on a stand made from the angle iron framework of a scrap bed. He bought an ML7 in 1948 and has built many locos including an LBSC Paddlebox, a Maid of Kent and his masterpiece, the Saint. He has been using a hand-operated drill for seventy-five years.

Brian A. has used an Amolco milling attachment fitted firstly to the lathe. Then for ease of use he fitted it to its own base. This was not very rigid so he bought a Warco Economy vertical mill for £400, did a few mods to it and was happy with it. He was then asked if he was interested in a Beaver mill that was being disposed of through a scrap metal merchant from a firm in Hertford. It was the same size as the Warco but a better machine; he managed to have it delivered. He has fitted it with a digital read-out device (a DRO). This gives the position of the table and is used in place of the calibrated hand wheel on the slides. A wire is secured to the slide, which runs back round a pulley to give the reading. A battery supplies the power. They are made by BW Electronics of Bedford and can alternate between imperial and metric.

Measuring angles was then discussed - for instance the angle between the cylinder block and the frame on a loco. A protractor is used for approximate angles; the vernier

(named after its inventor Pierre Vernier) measures within 15 minutes of a degree. A good invention is the angle gauge. It's like a slip gauge but each block is made of a different angle such as 47, 5 or 7 degrees and they can be turned round, to subtract. Angles can be created in 5-minute increments up to 90 degrees. A set from Chronos costs £27. The more conventional method is to use a sine bar, which is two rollers held on a block at a known pitch like 5" or 10", or in metric. As we know sine = opposite divided by hypotenuse, the hypotenuse is 5" as the bar. The sine of the required angle is multiplied by the 5" to give the 'opposite', which is the height of the slip gauge required to pack under one of the rollers. The sine of an angle can be found from a calculator or from a trigonometrical ratio book.

A puzzle put to us was how to make a part used in the governor for a beam engine; it was 9/32" diameter with sides at 15 degrees, like a parallelogram. It was elliptical in shape as a butterfly valve in a carburettor. The solution was simple; take a 15-degree slice from the 9/32" bar by using a slitting saw. Some doubt was cast over this method, so proceed with caution. On tricky jobs like this superglue can secure parts together for machining, provided the job is kept cool possibly by using compressed air.

It is with thanks to Mike that this was a very good, well-attended meeting; it was about what we do, and how we do it - useful stuff as we go back into our workshops.

Insurance – Individual Cover

As stated last month:

Members may still take out individual cover through the Southern Federation Scheme. for:

a. Public Liability – this is an extension to the Society's policy, which covers members operating privately or at outside events that are not in the Society calendar.
b. Personal accident – covering individual members.
c. Model engineering equipment – covers most model engineering artifacts.
d. Member's workshops – covers workshop buildings.
e. Model road vehicle insurance – third party and comprehensive are available.

Contact Bernard Lambert

Marine Mutterings

Apart from preparation and grassing the only outstanding work is general tidying up. So there is still some work of a rather more gentle nature to do. As usual help is always appreciated.

The season for enjoying the fruits of your winter work begins at Easter!

John is still putting together next season's fixture list – details should be available next month.

Enjoy the boating. ***Bernard Lambert***

The Sentinel S Model
by Raymond Goss

The very successful Sentinel Super and DG models are quite often seen at steam rallies but less often do we find the S model which was first produced in 1933. I asked the driver of a superb S4 at the Enfield Motor Pageant if he had any problems with condensate in the sump, as this was a problem I had with my 3 cylinder SA engine. "No" was the reply, "Sentinel fitted 5 piston rings per cylinder!" I have the normal 2 rings per cylinder. He said the wagon unladen had a maximum speed of 60 mph but he normally cruised at 50 mph.

I came across the following report on the S 6 model when looking through a 1950 issue of the publication ***Light Steam Power*** and thought it would be of interest to members.

THE SENTINEL STEAM WAGON UNDER TEST.

A Report ***of*** the Road Test conducted by the
"Commercial Motor."

(With acknowledgments to the "Commercial Motor."
By whose permission the data contained in this article
is published.)

MAINTAINS THE PACE OF AN INTERNAL-
COMBUSTION-ENGINED VEHICLE.

"My test of the Sentinel six-wheeler was my first encounter with a steam wagon, and it convinced me that the steam-engine power characteristics, affording high torque at low revolutions, are excellent in road vehicles, for they give rapid and smooth acceleration from rest to maximum speed." – L.J.Cotton, M.I.R.T.E., in the "Commercial Motor," January 6th, 1950.

The makers' specification of the 1950 Sentinel has been published in the January-March, 1950, number, but a further brief resume will be given here. The total weight of the wagon under test was 23 1/2 tons, the four cylinder single-acting engine is suspended horizontally from the chassis, each pair of crank journals being set at an angle of 90 degrees, and develops a maximum of 124 b.h.p. (brake horse power). Camshaft operated poppet admission and exhaust valves are arranged in T-head formation and three positions of cut-off, also one reverse position, are brought into operation by a cut-off lever connected to the camshaft and situated next to the driver. Steam flow is controlled by a foot throttle. The engine has pressure lubrication to the main and crankpin bearings, camshaft bearings and through the connecting rods to the gudgeon pins, a weir-type separator, attached to the side or the sump, ensures that any water reaching the base is automatically drained from the lubricant. A slow running double acting boiler feed pump is incorporated in the engine, the water flow being controlled by the driver, who operates a hand valve. The working pressure is 225 lbs. per sq. in., and a double superheater is incorporated in the boiler, which is of the Sentinel economy type. Coal is fed into the top of the boiler and rocking firebars, operated by a lever in the cab, assist the combustion of low grade fuel, such as will be used in the Argentine, from which country a large order for Sentinel steam wagons has been received.

A two speed sliding spur gear is incorporated in an extension to the crankcase, the output shaft being co-axial with the crank-shaft. Gear changes are normally made when the vehicle is stationary, thus no clutch or flywheel is necessary, but a large oscillation damper is fitted to the output shaft.

ROAD TEST - (62 1/2 miles over hilly country).

It should be noted that the spacing of the firebars on the vehicle under test was designed for use with low-grade coal and resulted in good quality Welsh steam coal being used at an abnormal rate.
The difficult 62 1/2 mile test route was completed in 3 hrs. 2 mins., including one stop for water, giving an average speed of 20.6 m.p.h. A total of 270 gallons of water and 4 cwt. 13 lbs. of coal were used, equalling 4.35 gallons of water and 7.43 lbs. of coal per mile. The fuel cost, using Welsh steam coal, at £3 14s. 10d. per ton, worked out at 2.65d. per mile.

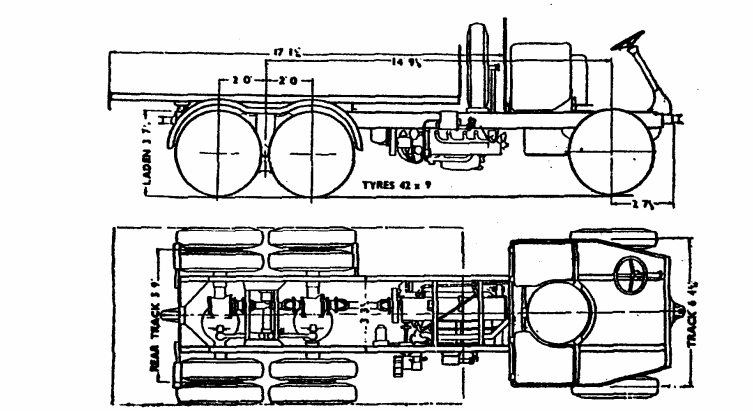
GOOD HILL CLIMBING.

Coal and water supplies were replenished for the short performance and hill climbing tests. A mile climb of 1 in 13 average gradient was easily surmounted, low gear being engaged during the first quarter of a mile and then we steamed steadily up with the camshaft in late cut-off position. Much to the astonishment of its driver, a well-laden 5-tonner was overtaken on the hill. The Sentinel appeared to get second wind when climbing over the 1 in 6 1/2 section at 4 m.p.h. There was a slight reserve of power on this gradient.
Having negotiated the hill without much difficulty, we refilled the water tanks in Much Wenlock, and started the return journey. Low gear was engaged when descending Harley Hill and the pace was kept under control by occasional use of the foot brake.
Acceleration and braking tests were made on the outward and return journeys, and average results obtained from the readings. The Lockheed braking system-hydraulic

continuous flow with engine driven pump and a reservoir-which operated Girling two leading-shoe brakes, was fully effective with the 23 1/2 ton load, the stopping distances being 28ft. from 20m.p.h. and 75ft. from 30m.p.h. The acceleration tests were made in high gear ratio, thus enabling a speed of 30m.p.h. to be reached. The results were: -

6 secs. to 10m.p.h. from rest
23 secs. to 20m.p.h. from rest
71 secs. to 30m.p.h. from rest

Maximum speed on level ground was 30m.p.h., which, of course, is easily surpassed on any slight decline.



1950 SENTINEL SIX-WHEELER—LEADING DIMENSIONS.

TEST REPORT – SENTINEL STEAM WAGON.
MODEL: Sentinel S-type six wheeled end-tipper

Weights.	Tons.	Cwts.	Qrs.
Chassis	7	13	3
Body	1	12	1
Coal		6	2
Water (165 gallons)		14	3
Payload	13	0	0
Driver, mate Observer		5	0
	23	12	1

DISTRIBUTION:

Front Axle	5	14	0
Bogie	17	18	1

ENGINE: Sentinel totally enclosed four-cylinder single acting non-condensing steam engine; bore 5 1/2 ins.; stroke 6ins.; maximum output 124 b.h.p. at 1,000 r.p.m. (at mid-cut-off position); maximum torque in low gear 5,800 lb.-ft.

BOILER: Vertical water-tube type, 34 tubes of 2 ins. Diameter; working pressure 255lbs. per sq. in.; superheater raises saturated steam to 800 degrees F.; grate area 3.28 sq. ft., heating 51.3 sq. ft.

TRANSMISSION: Through Hardy Spicer propeller shaft to spiral-bevel and helical double reduction drive of the three-quarter floating centre and rear axles.

GEAR RATIOS: Engine 2.72 and 1 to 1. Final Drive: 5 to 1.

BRAKES: Pedal operates through Lockheed servo systems to all wheels; lever connected through mechanical means to bogie; diameter of drums 16 1/2 ins.; width of shoes, front 3 1/2 ins., bogie 6 ins.; frictional area 992 sq. ins., that is 42 sq. ins. per ton gross weight as tested.

FRAME: Channel-section side members with tubular and channel-section cross-members bolted in position.

STEERING: Worm and nut.

SUSPENSION: Semi-elliptical springs, single spring at each side of bogie.

ELECTRICAL: Six volt compensated voltage controlled system, with 45 amp.-hour battery.

EVAPORATION: 0.585 gallons (5.85 lbs.) of water per lb. of coal burned.

STEAM RAISING: 125 lbs. per sq. in. raised in 43 min., 2 qrs. 7lbs. of coke used.

FUEL EMPLOYED: Ferndale Welsh steam coal, £3 14s. 10d. per ton.

FUEL CONSUMPTION: 7.43 lbs. of coal per mile at 20.9 m.p.h. average speed, including halts; 0.315 lbs. per gross-ton-mile; 0.572 lbs. per payload-ton-mile; 15 miles per cwt; 355 gross ton-miles per cwt. Fuel cost 2.65d. per mile; 0.112d. per gross ton-mile. Coal bunker capacity 6 1/2 cwt., range approximately 100 miles.
WATER CONSUMPTION: 4.35 gallons (43.5 lbs.) per mile. 0.184 gallons per gross ton-mile, steaming radius on 165 gallon tank, 38 miles.

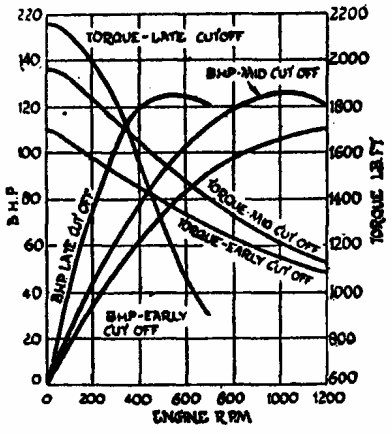
ACCELERATION: 0-10 m.p.h., 6 secs.; 0-20 m.p.h., 23 secs.; 0-30 m.p.h., 71 secs.

BRAKING: From 20 m.p.h., 28ft. (15.5 ft. per sec. per sec.); from 30 m.p.h., 75ft. (13 ft. per sec. per sec.).

WEIGHT RATIOS: 0.252 b.h.p. per cwt. Gross weight as tested. Pay load 55 per cent. of gross load.

TURNING CIRCLE: Both locks, 72ft. 6in.

MAKER: Sentinel (Shrewsbury) Ltd., Shrewsbury, Shropshire, England.



In conclusion, it is well known that the Sentinel steam wagons will carry, without difficulty, very much heavier loads than those legally allowed, and that their capacity for exceptional torque is unrivalled by i.c. or c.i. vehicles of similar capacity. More than a few drivers can remember when a "steamer" has been called upon to perform the feat of hauling a heavily laden diesel lorry out of a ditch.

COLLETT'S FOLLY

By Peter Kearon

Part Two

The Disaster Unfolds

During the period of my apprenticeship at the Barry Locomotive Works I would say that of the 13 engines under repair at any given time three were of the 5600 class, four were pre-grouping types with the remainder being panniers and odd engines from West Wales sheds or piece-work rejects from Swindon. It was of interest to fitters waiting their next engine for stripdown to learn whether it would be a 56 or a 66 variety; there was a considerable work difference. Firstly this was because the frames of the first 100 engines were suspended under the springs, which necessitated their removal from axlebox and spring hangers – heavy, filthy and potentially dangerous work. The later 100 engines were so much better in that the frames were carried above the springs and removal was as easy as just removing two small nuts and simply rolling out the wheels with the springs attached. Assembly time for the two designs was substantially different.

The whole class had a strange arrangement of driving wheel balance weights (coupled wheels were marked in turn leading, driving and trailing), which in some cases covered nearly half the wheel segment. This was because the inside crank was set at the same angle as the wheel crankpin so that the balance weight had to counteract both rotating masses. On some engines the respective pins were arranged 180 degrees apart and a more modest balance weight sufficed. These huge balance weights caused problems in that when side rods were removed and the frames lifted with the wheels clear of the track the balance weights took over and moved to the lowest point, in so doing operating the connecting and eccentric rods. To get at the nuts holding these parts to the crank axle it was necessary to bar the wheel around and secure it in place by driving a wood wedge between the wheel flange and track. Damage could be suffered by anyone working on the motion if these wedges were moved.

Perhaps the most annoying feature of the whole class was the extended smokebox, so long that the door opened immediately above the buffer beam, thus denying the use of a forward platform so necessary for smokebox cleaners to stand on. The smokebox fittings included a spark arrestor placed behind the blast pipe. Countless cleaners must have balanced in their minds the value of these grids in protecting the countryside from fire danger inherent with the emission of red-hot sparks and compared this with the value of modern self-cleaning smokeboxes where the aim is to discharge up the chimney every piece of char which comes along the tubes and by chance make the cleaners' work that much easier. No doubt after deep consideration

the cleaners voted for the self-cleaning option; heaps of discarded, rusty spark arrestors were stacked around the back of the coaling stage attesting the cleaners' preference for modern technology.

For much the same reasons working in the smokebox on blast pipes, jumper tops, steam pipes and superheater elements (not boilermakers work) meant crouching in this confined space while for shed work suffering streams of hot soot from above the petticoat pipe. Self-cleaning smokeboxes for me anytime. Had Charles Collett been given the task of perching with his toes on a narrow piece of plating, clinging on with one hand, avoiding the door closing bar, blowing through with a steam lance some 200 tubes plus two rows of superheater tubes then shovelling out all accumulated ash he may just have felt that the additional task of removing, and replacing, a filthy spark arrestor was better forgotten. Even better it may have dawned on him that a forward platform is essential with the added advantage of housing useful guiding wheels.

He may possibly have come to realise that one of Mr Churchward's excellent 3100 class prairie tanks were better in every way than his own lacking, design fiasco. But did Charles ever go into the smokebox of an engine just off the roads? Brand new smokeboxes in Swindon 'A' shop carried little excitement. It had been said, falsely, that outside cylinder engines fouled platform edges. Better to remove a few coping stones and use real engines than repeat the excuse that "we always used radial tanks". When, after the War new 4100-class prairie tanks were sent to Barry, Cathays and other
South Wales sheds there was no problem about clearances and at last real engines had arrived. What a pity that puny 82000 series BR standards were imposed for a time on passenger work. They were no match for goods trains.

During my second nine-month spell on the 'pits' I was teamed up with one Arthur Beck, then in his mid fifties and thus of the "Old Barry" mould from apprentice to senior fitter. Arthur was a man who had nothing to learn about locomotive repairs but his enthusiasm was not for engines but for the "Barry Glee Singers", a male-voice choir of which he was a founder member and a fine baritone. We had been stripping down a 5600-class engine, rolled out the wheels, laid the frames on stout timbers under each buffer beam with screw jacks supporting the frames between horn blocks when surprisingly he asked me the engine's number. 5607 I told him (or some such low number); strangely he asked me to have a look at the horn blocks to see if there were tapped holes on the faces. I failed to discover any such oddment but out of curiosity I asked Arthur why he should expect to find anything so unusual. In reply he told me of his remarkable experience, which had taken place 20 odd years earlier.

When the new 5600-class engines appeared at Barry in 1924 they were greeted with enthusiasm. Within days disillusionment set in as, one by one, these new engines failed with overheated axlebox bearings (hot boxes). They were taken into the Barry Factory where the journals were polished, the axleboxes remetalled, machined and carefully scraped and bedded. A test run along the passenger lines of the Vale proved cool running and all appeared well. However, once returned to service hauling coal trains the bearing problem occurred again almost immediately. This impossible performance was echoed by other sheds where these new engines had been allocated, notably Radyr and Cathays. After a dozen or so engines had arrived from Swindon

further deliveries were halted. It appears that construction continued but these new engines were put to store.

At this time, Arthur told me, he was instructed to take part in an investigation programme ordered from Swindon. An engine, already in Barry Works, was to be made a testbed so that the cause of this baffling bearing problem could be looked into, understood and a proper solution reached. Distant reading thermometers were to be fitted to all horn block faces, 24 in total, so that the early location of overheating could be identified. Some form of capillary tubing would be led from the hornblocks to a board mounted vertically on the fireman's side of the cab. But such a combination of trades caused instant Union conflict. Arthur drilled and tapped the 24 holes as instructed but found that running the tubing was a coppersmith's job and further, that screwing anything into wood was solely within the realms of the carpenters. The Tower of Babel was recreated.

When the various trades were finished the engine was re-wheeled and hauled back to Barry sheds. Next morning it was steamed to Cadoxton sidings and coupled, chimney first, to a rake of 60 empty wagons with an additional guards van placed next to the engine to carry the investigating team – including Arthur. The main Barry Railway route was followed, north through Wenvoe, over the Great Western main line west of St. Fagans (this route is now the link road to the M4 motorway and passed under what is now Junction 33 Services), on to Treforest and into Pontypridd. A stop was made there to check the bearings, which were all cool with zero readings on all the cab-mounted temperature indicators.

The route then followed the ex-Taff Vale line towards Nelson, steeply inclined, tortuously curved track (closed to passenger traffic in 1932). Almost immediately the thermometer for the left driver showed heating; the engine driver was instructed to stop the train. Arthur checked and verified that there was no heating on the left driver nor on the left leader nor left trailer. It was obvious that the thermometer readings were not dependable. Off again with even higher but clearly false readings showing until the smell of burning metal could not be denied. The train was again brought to a halt in the less-than-well-known Llanfabon Roads where a check on the same bearings showed them to be acceptable warm; a further check on the wheel bearings on the right side showed the bearing on the leading wheel to be untouchable with a temperature quite at odds with the reading displayed in the cab. Without doubt the engine had failed.

"How could that have been?" I asked Arthur. Simply that some thermometers had been connected to the wrong capillary tube. Whose fault? Not mine said the coppersmith, I merely led the piping to the cab. Not mine said the carpenter, I merely screwed the gauges to the board. What a mess, what a shambles. The discredited investigation team made their way back along the track to Pontypridd and hence to Barry leaving the damaged engine to sit in its sidings. "What happened then?" I asked Arthur. The engine was hauled away to Caerphilly Works (doubtless by one of those pre-grouping types), where they sorted out the problem. That Caerphilly succeeded is clear; how they did it remained unexplained. (There was for many years a delightful line running from (Taff Vale) Pontypridd station to (Rhymney) Caerphilly station running along the east side of the Taff Valley where a 6400-class pannier

powered a couple of coaches between these two railway centres. All gone now – not cost effective.

"One thing I can tell", Arthur added. When the work was done the people at Caerphilly sent Collett a pretty stiff letter about the failings of this new design. (Is that so; I would have thought it easier for a German soldier to have told Hitler that his war strategy was wrong than for an ex-Rhymney employee to have questioned the ability of that most dour, unsmiling despot, Charles Collett. Dreams are made of the underdog upbraiding the boss, but I couldn't help thinking that it was just a load of wishful thinking).

Research shows that details of the new 5600 class, along with the usual posed photograph, i.e. coupling rods at bottom centre, in works grey, were first given in that most respected of journals, The Railway Magazine, as late as February 1925. Possibly the propaganda machine at Paddington felt it sensible to wait until these engines were in dependable service.

One of 50 engines built by Armstrong Whitworth, Newcastle, in 1928, 6659 spent its entire life working from Cathays (Cardiff) sheds and operated routinely on the Pontypridd-Cardiff-Benarth services and passed my bedroom window countless numbers of times. In the 1960's, Swindon put on sale a vast collection of number plates from the un-named classes. The brass plates were priced at £5.00, cast iron plates just £3.00.

To be continued

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