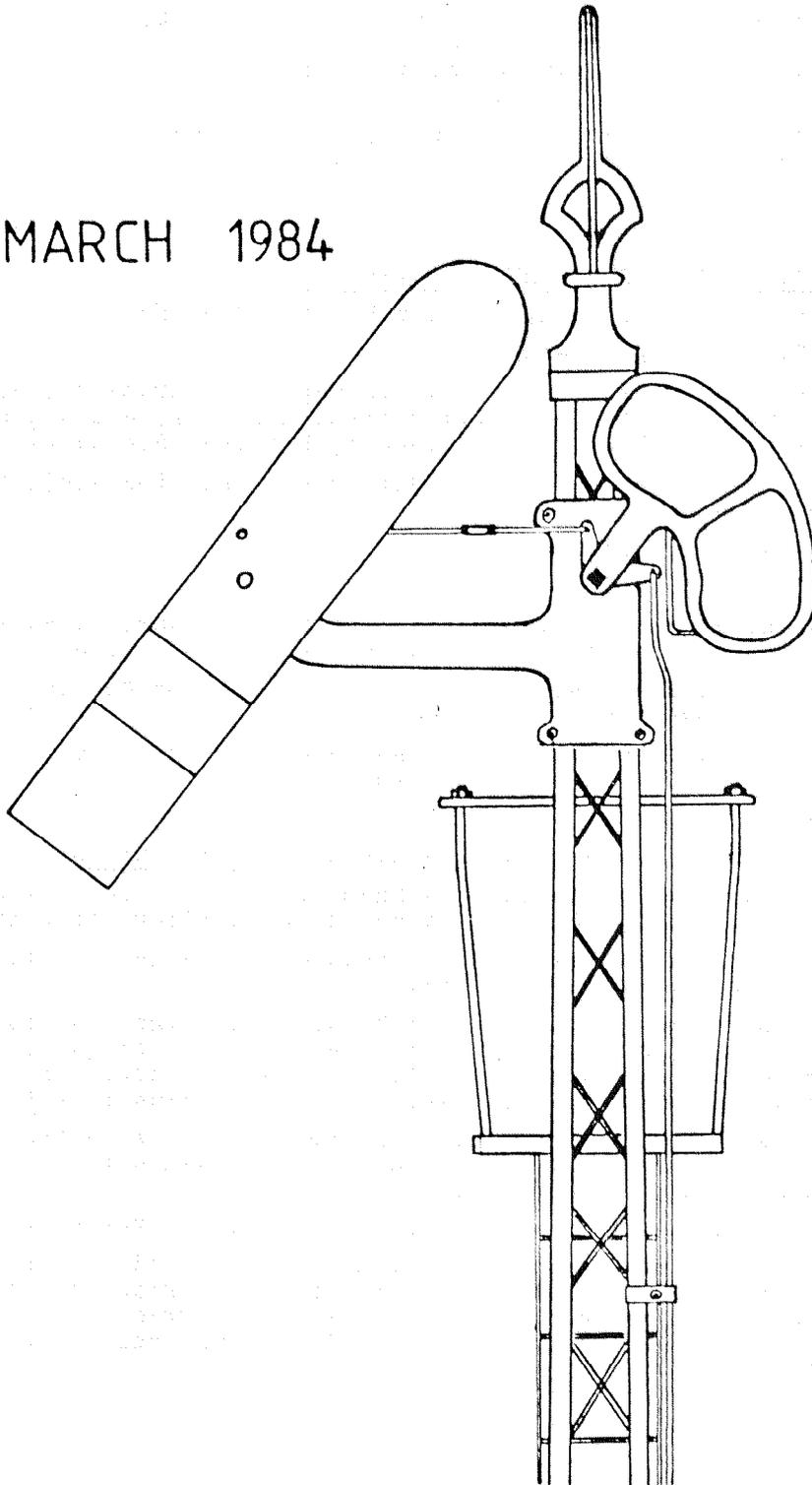


SOMIERSAULT

MARCH 1984



SRSV

Editor: David Langley, Crichton Street, Avenel, 3664.
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Dead line for May 1984 issue is 15 April 1984.
NEXT MEETING: Friday, 16 March 1984.
VENUE: A.R.H.S. Library Room, Windsor Railway Station.

Victorian Group Leader: Jack McLean, 60 Kenmare Street,
Box Hill North, 3129. Phone: 03-8906764.
Victorian Group Treasurer: Rob Weiss, 40 Shady Grove,
Nunawading, 3131. Phone: 03-8781305.

New South Wales Group Leader: Bob Taaffe, 11 Deribong
Place, Thornleigh, 2120. Phone: 02-8489994.

MINUTES OF FEBRUARY 1984 MEETING

HELD AT: A.R.H.S. Library Room, Windsor Railway Station.
MEETING COMMENCED: at 2041 hours following the A.G.M.
PRESENT: J. McLean, G. Inglis, W. Brook, J. Brough, J. Churchward, R. Kent,
A. Kociuba, R. Jeffries, A. Jungwirth, L. Lester, J. McCallum,
C. Rutledge, J. Sinnatt, P. Stoneham, R. Weiss, B. Wooding.
A welcome was extended to visitors Ken Date (SRSNSW), David
Watson and Tom Deveney.

MINUTES OF PREVIOUS MEETING: deferred.

BUSINESS ARISING: deferred.

CORRESPONDENCE: Inwards: 1. from Victorian State Library regarding missing
copies of Somersault and requesting replacements.
2. from Railway Signal and Telegraph Museum S.A.
regarding ??
3. from Reece Jennings regarding issues of Somersault
and back numbers.

Outwards: nil

GENERAL BUSINESS: 1. Subscriptions are due and please include the form!
2. Labour Day Timetable - Horsham train is to be extended
to Dimboola for that day. It could be an interesting trip.
3. Parwan Loop - developments regarding the installation
of Parwan Loop were reported.
4. Lethbridge - an unusual sight of eight light locomotives
coupled together was noted. Apparently the locomotives run
from Geelong to Maryborough for mechanical servicing. The
maximum number of locomotives run in this manner is ten.
5. METROL - There are still ongoing problems with the Train
Describer System and experts are being flown out from
Sweden to try to correct things.

MEETING CLOSED: at 2053 hours. Next meeting to be held on 16 March 1984.

ENTERTAINMENT: Alan Jungwirth screened some 16mm films including a short
film on the inaugural run of the Spirit of Progress, 'Oper-
ation London Bridge' and a BBC Horizon Program 'Rail Crash
1972' virtually a visual Red for Danger and very good film
to boot.

THE ORIGIN OF THE CENTRALLY BALANCED SEMAPHOREThe Accident at Abbots Ripton on the
Great Northern Railway.

by T. S. Iascelles.

On 21 January 1876, the up Scotsman express on the Great Northern Railway, which left Peterborough at 6 24pm, six minutes late, composed of engine, tender and ten vehicles, ran at an estimated speed of about 50 mph into a coal train of 33 wagons which was being shunted back into the lie-by siding at Abbots Ripton* sidings signal box. The express locomotive and some coaches turned over across the down line and shortly afterwards the 5 30pm express from Kings Cross to Leeds and York, which passed Huntingdon at 7 00pm ran into the wreckage, cutting through the tender and third and fourth carriages of the up train and doing great destruction. The speed had fortunately been reduced to about 15 mph. The engine of this train also turned over. Neither express had continuous brakes. Thirteen persons lost their lives and twenty-four were injured. As nearly all published accounts of this accident (until one which appeared recently in 'The Engineer' early in 1942) have contained many and great inaccuracies and, as moreover the calamity directly contributed to the introduction of what has long been called the "somersault" semaphore, a few facts concerning the case may be of interest to members of the Institution.

The weather conditions on the evening in question were extremely bad, with heavy snow and sleet loading the signal wires and impeding the working of the signals, which were of the type then common, having the arm mounted in a slot formed in the post and not counterbalanced in itself, and a separate red spectacle glass, a white light being used for the "allright" indication. There was difficulty in getting signals to return to "danger" and staff had been called out here and there to free the wires and fittings from obstructions. No signal concerned in this case had an electric repeater. The trains were running fairly well to time, in spite of the bad weather. At 5.53 pm, a coal train left Peterborough 18 minutes late, in advance of the Scotsman, which stopped at that place in those days, and it was intended that it should shunt at Holme, six miles north of Abbots Ripton, for the express to pass. The line was being worked on the absolute block system under rules which came into force on 1 February 1872, the normal position of the needles of the block instruments being "line clear" and not the central de-energised position as later became the practice. Except at a few specified places the normal position of the semaphores was "allright" which, of course, favoured any tendency to wrongside failures in bad weather.

It is known that some of the signals at Holme station were failing and the driver of the coal train declared that he had white lights in all signals there and onwards to Abbots Ripton. The stationmaster maintained, however, that the "danger" indication was being duly shown, but whether this was so or not the coal train ran by. This was of no immediate consequence, as the line was clear for many miles in advance. Between Holme and the Abbots Ripton sidings there were then two block posts named Connington and Woodwalton. These boxes were not on the single needle telegraph circuit and the block bell code of the time made no provision for a "vehicles running away" signal. In any case nothing would have been gained by stopping the coal train where it could not be shunted. The Holme signalman duly telegraphed to Abbots Ripton, where the signalman placed his up distant and home signal levers to the "on" position. The signals failed to respond but he exhibited a red hand signal. The coal train driver, who found all signals up to the distant for Abbots Ripton "off", was driving with care and prudence. He realised that signals might be failing and expected that he would be required to shunt there. He did not see the home signal owing to steam beating down, but duly observed the hand signal and was called to from the box to shunt back as expeditiously as possible, or the following express would get stopped at Woodwalton.

In clear weather "line clear" (as it was then called) was allowed to be returned to the box in the rear as soon as a train had arrived within the protection of the home signal, but in fog or snow not until it was proceeding on its way or had been shunted clear. This rule was obeyed and the block needle for the up line between Woodwalton and Abbots Ripton duly maintained at "train on line". The distant signals were then stop signals, a driver being required to stop if he found one at "danger", if possible before passing it. After stopping he might draw forward cautiously, as far as the home signal or up to any obstruction there might prove to be in rear of it. It was a signalman's duty in fog or snow to put down detonators and show a hand "danger" signal

when the section ahead was not clear, but the Woodwalton signalman did not do so. He failed to assure himself of the working of his home signal - his distant signal was perhaps hidden from him by the weather - and this neglect, for which offered some very poor excuses, was the direct cause of the disaster. The Scotsman left Peterborough in due course and the driver found all signals "off" for him up to the distant for Abbots Ripton. He said he particularly noticed the Woodwalton signals but saw nothing of the shunting movement until the collision occurred. When his train ran by that box it awakened the signalman to some sense of responsibility and he showed emergency signals with the result that an express from Manchester, which left Peterborough a quarter of an hour after the Scotsman, was successfully warned. This train had found all signals "off" and it was afterwards found that those at Connington were failing. The driver put his engine in reverse on seeing the hand signal at Woodwalton and stopped, but seeing the distant for Abbots Ripton "off" ahead of him moved cautiously forward and was eventually stopped again by the guard of the wrecked express.

There was considerable confusion at Abbots Ripton for a time after the crash, and agitated passengers invaded the signalbox with requests that telegrams be sent off on their behalf. This distracted the signalman who, although he put all signal levers back in the frame, forgot for a while to send the "obstruction danger" bell signal to the Stukeley block post, situated between Abbots Ripton and Huntingdon. By the time he did so the down express was passing there and it was too late to do anything. In the meantime, however, the coal train driver had sent his fireman towards Huntingdon with detonators which were put down near the down distant signal, and shortly afterwards proceeded forward with his engine and his guard to fetch assistance. He picked up the fireman and they then heard the Leeds express coming. They showed hand signals and whistled loudly. The warning was fortunately perceived by the approaching engine, for the down distant signal was also sticking at "allright". They whistled for brakes, applied their own and reversed their engine, with the result that they had reduced speed to about 10 or 15 mph before running into the wreckage of the first collision.

Captain H. W. Tyler, an Inspecting Officer of Railways from 1853 to 1876, when he left the public service to become President of the Grand Trunk Railway of Canada, inquired into the case on behalf of the Board of Trade and passed severe censure on the signalman at Woodwalton, firstly for taking no steps to watch the working of his signals and secondly for disobeying the special rule applying during fog or falling snow. The working of the signals naturally called for his close attention, as at least seven were proved to have been standing falsely "off" and a fitter had expressed the opinion in evidence that this was occurring generally in the district that night. He recommended the use of double wires, to provide a positive return effect, and the adoption of "danger" as the normal position, the latter course being gradually taken by the railways in this country during the next two decades. Although it has often been said that the adoption of the green light for "allright" by the Great Northern about this time was a result of the accident, the official report shows this to be a misconception. Had the signals been fitted with green spectacles the result would have been no different. The story appears to be based on a rather vague remark made by a guard to the effect that a particular signal had a whitish appearance, but as he later said that the signal was "off" it is hard just what he meant. It is not known to the writer with certainty when the "normally blocked" method of working came into force on the line but it appears to have done so on 1 December 1884. Captain Tyler said that, generally speaking, the signalling on the G.N.R. was good and he had no particular reason to criticise it. He thought, however, that the single needle telegraph communication should be taken into every signal box. He also found that there had been some delay in obtaining assistance after the collisions and thought improvement was called for in the telegraph regulations, so as to secure better priority for urgent messages.

It was becoming recognised by many engineers that the design of semaphores could be improved with the object of rendering them less likely to be held off irregularly. It is true that nothing short of double wires would probably have been effective under such very bad weather conditions as prevailed on the night in question. Nevertheless a signal arm which was not counterbalanced in itself was dangerous and the various railways gradually introduced designs of their own in which this defect was remedied. These designs were in many cases so distinctive that a signal could often be recognised as denoting the railway it stood alongside as plainly as the locomotive would show at a glance to which line it belonged. This was especially the case with the so-called "somersault", or centrally balanced semaphore which eventually became standard on the G.N.R. and was adopted to some extent elsewhere. This signal was proposed by an inspector stationed at Hitchin, named

Edward French, who took out a provisional patent dated 22 September 1877, No. 3569, but no complete specifications followed, owing it is said to some dispute with his superiors about the originality of his claim which caused another person, who was helping the inventor financially to withdraw his support from the venture. The principle of French's semaphore was the placing of the spindle, itself carried on a bracket casting extending to the left of the post, on the vertical centre line of the arm but above its horizontal centre line, so that it was balanced completely when horizontal and when vertical, had the maximum return effect without any counterbalance being required. The arm was intended to move to the vertical for "allright" but in practice often did not travel quite so far. It was driven by a rod from a crank on the post actuated by the down rod, the spectacle originally being carried separately a short distance below, a practice favoured by several lines at one time but lasting longer on the G.N.R. than on any other. In later years that railway itself placed the spectacle level with the arm. The green light was given through a rather pale green glass, very different from the signal (blue) green more generally met with, and the back spectacle casting carried a violet glass. Eventually, however, the plain blinder plate superseded the latter arrangement. The G.N.R. was noted for its large numbers of very high signals, no expense being spared to get a sky background whenever possible, especially for distant and home signals, and for some years "splitting" distants were provided for every possible movement, including crossover junctions. A curious feature of the G.N.R. signalling was the almost entire absence of calling-on or draw-ahead signals. The "somersault" semaphore gave a very clear and distinctive "alright" indication, but was expensive to install and maintain, and it is doubtful whether any advantage it may have had was worth the extra cost involved. The G.N.R. remained faithful to it, however, and large numbers of "somersaults" still remain on the former G.N. routes. Although it would probably have come into existence in any case, the accident at Abbots Ripton may fairly be regarded as having provided the chief incentive to its production.

As above stated, a few other lines have adopted the centrally balanced arm, principally the South Wales lines, such as the Taff Vale, Rhymney and Barry, the Lancashire Derbyshire and East Coast Railway, and the Belfast and Northern Counties Railway. It was also installed on the East Indian Railway but eventually disappeared from the line, and on the railways in New Zealand and Australia, except those in New South Wales. There were slight modifications of detail, compared with the G.N.R. type, but these in no way affected the working or general appearance of the signals. It may be mentioned, however, that the Welsh lines painted the white and black stripe markings at each end of the arm. Another form of this semaphore, with spectacles carried on the arm, was used long ago on the St. John's Wood line of the Metropolitan Railway. Austin Chambers, the well known signalling inventor, obtained much the same effect, at least as regards counteracting a load of snow on the arm, by adding to his signal spectacles extension pieces, the top edge of which was made broad enough to offer an area equal to that formed by the opposing portion of the arm.

Editor's Note: This article was originally published in the Proceedings of the Institute of Railway Signal Engineers and the copy was supplied by Colin Rutledge.

NO VAN IN THE REAR

by Stephen McLean

Years ago, when I first went out watching trains with Dad, and first tried my hand at operating the Wingrove Railway, I learnt one of the important rules of railway operation: all trains had a guard's van as the last vehicle. All trains I saw were indeed marshalled according to this principle and I used to dismiss with scorn train sets sold with just an engine and two carriages as "unrealistic".

The first overseas train I studied was the 1114 from Amsterdam to Cologne which consisted of a Dutch electric engine and three German carriages. Later in the day I rode on a Dutch train with a combined buffet and guard's van in the middle of the set. One day in Europe was sufficient to see that they weren't concerned about having a van at the rear (or anywhere at all). Later I discovered that even in England, generally considered the source of our railway operating practices, they were happy to run with the van at the front, or in the middle. Various overseas trips after that showed that indeed the rest of the world (with the one exception of Sri Lanka) didn't need a van at the rear, and in the last year or so of the "old" passenger service on VR it was rather annoying to see so many passenger trains weighed down by extra vans carted around just so there could be one at each end without the need for shunting.

Fortunately, VR joined the rest of the world (and overtook the rest of Australia) when it began regularly operating passenger trains without a van in the rear in October 1981. Tight turnrounds involving no shunting, and the reduction in train loads, have enabled schedules to be accelerated markedly.

Even in the bad old days there were, of course, exceptions to the general rule. The Gippslander was the oldest example; the reversal of direction at Sale meant that two vans would otherwise have been needed, and this would have been awkward, as the cars attached/detached at Traralgon would then have been separated from the buffet by a van. The evening train, on the nights it ran to Bairnsdale, did in fact have two vans, and the cars detached at Traralgon were marshalled in front of the leading van from Melbourne. The rules for operating The Gippslander without a van in the rear were spelled out in the working timetable and required the conductor to hold a guard's certificate. The Vineland ran for some time with the van at the front of the train so that sleeping car passengers could be as far as possible from the noise of the engine and again the conductor in the rear sleeping car had extra responsibilities.

More interesting was the operation of the morning Albury train in the days when it was combined with the Goulburn Valley train as far as Seymour. To allow Goulburn Valley passengers access to the buffet car, the Albury van was on the front, and beyond Seymour, the MBS was the trailing vehicle. For a while there was a restriction of four passenger cars behind the van, but this was later removed. On this train the conductor wasn't necessarily qualified in safeworking and in fact for a short time there was no conductor rostered on the Sunday morning train which continued with the guard at the front.

Shunters strikes in Melbourne usually led to non-standard operations - train with vans at the wrong ends, or engines at both ends, etc. On one evening the down Albury Express arrived at Seymour with the CE van leading, then the carriages and finally a louvre van. From Melbourne the guard had ridden in the rear passenger vehicle but the Seymour guard, used to working the morning train from the front, hopped in the CE as usual. On this occasion the louvre conveyed vangoods for the Goulburn Valley train which was being worked as a connection from Seymour. However it wasn't removed as this would have left nowhere to hang the tail-lights and they unloaded all the vangoods instead. On another occasion I travelled to Horsham on the morning pass, which left Spencer Street with the van at the front. Between Ballarat and Ararat I discovered an employee travelling in the rear AW car just to make sure that everything was all right. At Ararat, after the train had run for four hours without incident, they exceeded the scheduled stop by 15 minutes and put the van back on the rear; after reaching Horsham late more time was lost in getting the van back where it had been.

Running trains with no van at all was rarer but it did occur on the Friday before Queen's Birthday 1976 when there was a shunters strike. The 6.30pm combined Albury/Shepparton train (connect at Toolamba for Echuca) was replaced by a 7.30pm standard gauge train. Apart from the novelty of stopping at Euroa and Wodonga, where there are no standard gauge platforms, this train was unusual in that it consisted entirely of passenger cars, with no van at all. Luggage was piled in the vestibule of the rear car and a tail light held

in place by lots of wire. (It had gone out when the train reached Seymour, but no-one wanted to undo all the wire to relight it!) For the Goulburn Valley connection, Seymour used a set of cars which had arrived on a local pass. - from the rear: BCFL-BW-AW-CW. So as not to require them to change trains a second time, the Echuca passengers were put into the BCFL, which was detached at Toolamba to be hauled by the DERM to Echuca; Train Control rang Toolamba and told him to find some wire to tie a lamp onto the BW. They did some naughty things in those days.

Present day working on VR (STA) is unique in the world; we are the only system which has every van marshalled consistently at a given end of the train. Many overseas systems prefer to have the van at the front of the train all the time - Thailand is one such country and at country terminal stations they shunt the van to the front for the trip back to Bangkok. This is the usual practice, but it is not essential, and the van may be on the rear or occasionally missing altogether. Normally the guard rides in the van.

Amtrak trains are regularly marshalled with baggage vans at the front, but these have no accommodation for train operating staff. The American train order system necessitates someone at the front and rear of trains whatever vehicle is used. On the Capitol Limited from Pittsburgh to Washington the rear vehicle was a lounge/diner and the conductor was happy to set up his "office" on one of the lounge tables. On the Canadian, the rear brakeman travelled in the observation car and talked to the passengers.

On European trains, a van, when provided, is for luggage and parcels, and the guard usually travels in a carriage, in a specially-reserved compartment. In England the rules state that the guard must ride in the brakevan, or rearmost brakevan where more than one is provided. Those familiar brake/compo vehicles have wire cages inside, and passengers can walk through when they are marshalled in the middle of the train.

The changes which took place in Victoria on 4 October 1981 required minor modifications to cars which would be operating at the end of a set. Earlier in the year a number of them had been equipped with tail discs, lamp brackets, brake taps and gauges, although some unmodified cars found themselves as rear vehicles and there were various temporary methods used to attach tail-lights. VR made few changes to its rules - on up trains (down trains between Melbourne and Sale) the van will be at the front of the train and the guard will ride in the van. The rules are rather vague after this. Where a train consists of two sets coupled together there are, of course, two vans; on down trains it is natural for the guard to ride in the rear van, but there are no procedures laid down for up trains. I believe that in this case the guard should ride in the front van; that is where station staff are expecting to find him, and if he is somewhere else then the train could be delayed while vangoods are shifted along the platform; on arrival at Spencer Street the unloading of vangoods can take place at one end of the train and not in the middle of a crowd of passengers. On trains with buffet service, these passengers who have to walk through the middle van to reach the buffet car will not be disturbing the guard or tripping over vangoods. In most but not all cases, this is where the guard does ride.

At the same time we started using railcar trailers with no van section (converted "W" carriages), the guard rides in the railcar. In a few instances where standard trailers were used the guard preferred to ride in the railcar, a practice once against the rules, and uncomfortable when the railcar was heated or airconditioned, and the trailer wasn't. An accident to one of the converted BW's and the scrapping of the standard trailers, hastened the day when ordinary carriages began to be used, and it is now quite common to see a DERM leave Spencer Street towing a BW car.

Although the rules restrict the running without a van in the rear to up trains, in practice it may occur with down trains too. On 4 October 1981, Ballarat incorrectly sent out one of its sets to Melbourne with the van on the rear; it had 25 minutes in Melbourne before going to Shepparton, and as there was no hope of reversing the van, it was left at the front of the down train. During one shunters strike, a set of cars ran from Geelong to Seymour via Brooklyn, thus having the van at the front on the down trip to Seymour. It stayed this way for about a week. Special trains operated by Steamrail and other bodies have usually had a van at each end (the enthusiasts turned out to be more tradition-bound than the railways), but often one of these vans was Goulburn or Yarra, which perhaps didn't look like a van to the guard. The ARE Portland trip left Spencer Street with Goulburn on the rear and the guard riding in the leading "C" van.

(continued on page 24)

INTERLOCKING ON THE VICTORIAN RAILWAYS

by Colin Rutledge (continued)

10. Closing Key on Interlocking Frames

The years around the 1890's saw a depression in Victoria. Adding two and two together, it can be concluded that a means of reducing the manning level of stations was desirable. At this time the only known means of securing facing points in a running line was to rod them to an interlocking frame. This was necessary even if the particular station was not used for staff working.

To allow the S.M. to go off duty, opposing signals needed to be placed at proceed. This is normally prevented by not allowing the plungers securing the facing points at opposite ends of the yard to be locking their points at the same time. To prevent unauthorised interference with the levers, an Annett's Lock was fitted to secure the signals reverse. The first use of this arrangement was at Leeor, the necessary alterations being made on 2 September 1891. Initially the Annett's Lock secured the Home signals at proceed leaving the Distant signals free. A little over a year later (14 December 1892) the lock was re-arranged to apply on the Distant signal levers. The Annett's Lock itself was of the type that bolted to the signal box floor near the frame and connected directly to the interlocking apparatus. The arrangements at Leeor did not last much longer as the frame and signals were abolished on 1 May 1893 along with, presumably, the station and sidings.

In Weekly Notice No 25 of 1895, dated 17 October 1895, instructions tell of eight stations between Dooen and Lillimur inclusive that had been fitted with the same type of Annett's Locks described above. In these cases the key was freed when both lockbars were pulled, it should be noted that there was no interlocking between the two lock bar levers although this was no problem as the stations were not crossing places. The Annett Key, when removed from the lock attached to the frame, was placed in the station safe. This left the signals free to be operated by the guard of any train requiring to work at the station.

11. Coal Chutes

To quote the 1928 General Appendix, "Jumbunna-Outtrim section - Loading chutes are erected at the following locations, (i) Outtrim Coal Mining syndicate at 74m 7lc, and (ii) Mount Pleasant Colliery Co. at 75m 5c.

The above chutes, which are normally secured clear of the line, are controlled by a Locking Bar secured by an Annett's Lock. The Annett Key is attached to the Train Staff for the section Jumbunna-Outtrim.

The chutes are so arranged that they cannot be lowered until the Annett Lock has been released, and after being lowered, the Annett Key cannot be withdrawn from the lock until the chutes are raised and locked clear by the Locking Bar.

The Annett Key must not be removed from the Train Staff and only trains carrying the Staff may work at any chute."

The first use of Annett's Locks in Victoria

Leeor, as mentioned previously, was the first location as far as I can ascertain to be fitted with any form of Annett's Lock. This was provided on 2 September 1891.

Black Burn Brick Siding, on the down side of Black Burn, was fitted with a two lever ground frame on 20 November 1891, the double line to Mitcham being opened the next day. This frame was secured by an Annett's Lock and the key would have been normally kept in a duplicate lock on the Down Starting Signal lever at Black Burn. The actual working of the siding would have been very similar to that applying currently to McDougal siding at Broadford.

Annett's Locks fitted directly to points were covered in instructions published in Weekly Notice No 42 of 1895 (March 1895). These were preceded by the fitting of an Annett's Lock at Jefferson's Siding (between Garfield and Bunyip) on 20 February 1895. The Annett's Lock was probably released by an Annett Key attached to the staff for the section.

The need to achieve a cheap and simple form of interlocking within a station yard was first solved with an Annett Lock at Oakleigh "B" signal box. A crossover beyond the reach of the mechanical operation from the frame was fitted with an Annett's Lock and it seems that the key was normally kept in a lock on one of the signal levers.

(continued on page 24)

V.R. SIGNALLING HISTORYNo 33. BET BET

by David Langley

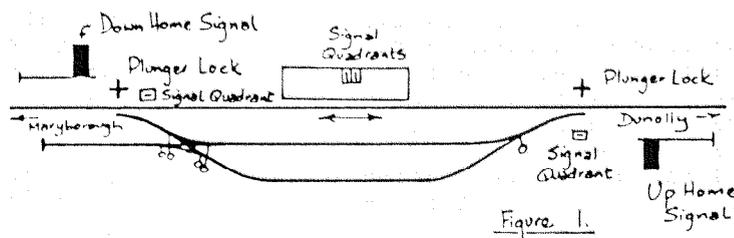
The gold mining township of Bet Bet was provided with a railway station on 6 October 1874 when the first section of the Mildura line proper was opened between Maryborough and Dunolly. Up and down home signals protected the three road yard and although a crossing loop was provided, Bet Bet was not a staff station. Nor was it shown as such in the 1881 Working Timetable. By 1885 the Mildura line had reached Donald and with the resulting increase in trains it was apparently necessary to shorten the section Maryborough-Dunolly and so Bet Bet became a staff & ticket station.

The depression of the 1890's saw traffic drop off and economies were made in manpower, the station master being withdrawn from Bet Bet and with him the staff & ticket, leaving Maryborough-Dunolly as the section once again. The home signals lasted until the provision of electric staff on 9 October 1900 when they also went as there was now no necessity to protect shunting trains. Previously it was necessary to protect trains travelling on ticket whilst they were shunting at intermediate stations but with the electric staff system only one train could occupy the section at one time. The main line points were now equipped with staff locks.

The steady increase in the area of land being cultivated, especially for wheat, brought the problems of large numbers of small trains operating through long staff sections and over adverse gradients. To help alleviate this problem Bet Bet was provided with large pattern electric staff instruments to enable the station to be used as a seasonal staff station.

Plunger locks, home signals and scotch blocks in No 3 road were provided and brought into use when open as a staff station.

The staff locks rodded to details in No 3 road were retained for use when the station was closed as a staff station. Also the crossing loop was spiked out of use and the home signals crossed. The dead end extension of No 2 road was used for crossing long trains. These alterations at Bet Bet were brought into use on 31 December 1912 and the arrangements are shown in Figure 1.



Bet Bet was first opened as a seasonal staff station on 6 January 1913 and closed three months later, but was reopened for periods of up to five months in 1914, 1916, 1917, 1918, 1919 and 1920. After reopening in January 1922, Bet Bet remained a staff station permanently and the staff locks were removed although my records do not show whether it was immediately or on 11 November 1924. This latter date is, however, the date of installation of a five lever interlocking frame provided in conjunction with the opening of a ballast siding. This 'siding' some two miles 17 chains long branched from the up end of No 3 (Shed) road at Bet Bet and ran alongside a public road to the Duke and Main Leads gold mine known to have been working at least until 1918. The siding enabled the railways department to remove mine tailings for use on the Mildura line during the upgrading of that line to allow A2 class engines to run as far as Woomelang. The State Rivers & Water Supply Commission also used the tailings for lock construction on the Murray River near Mildura.

The ballast siding terminated in a loop siding with two dead end sidings, and was worked under the rules for Staff & Ticket although tickets were not ordinarily used. K class engines were the heaviest permitted and the speed limit was 10 mph, trains working the siding were required to have a van at both ends.

The alterations at Bet Bet for the ballast siding saw the dead end extension of No 2 road lengthened by 1500' and connected to the main line permitting an engine and 37 vehicles to stand in clear of the connections at both ends. The up end connection and the new crossover at the down end were both secured by Annett Locks the key of which was normally kept in a duplicate lock on lever No 5 in the interlocking frame. When the key was removed (after re-

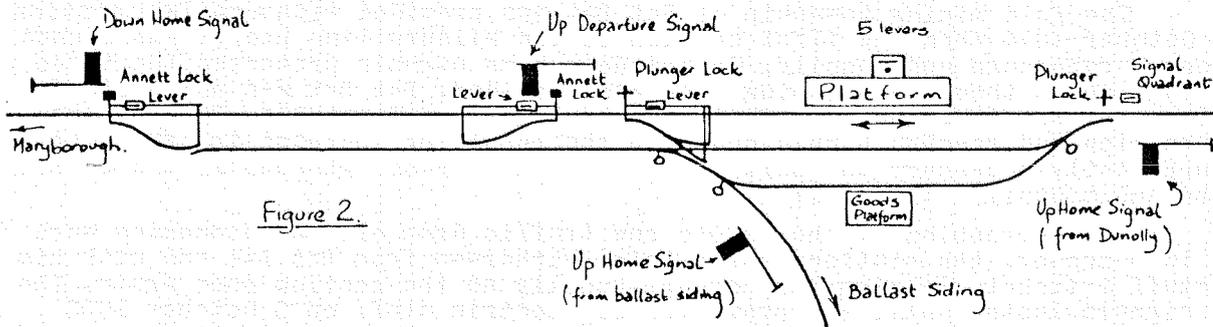


Figure 2.

The home signal from the ballast siding was removed on 17 July 1930 and the siding shortened to about 1200' in August 1939. It was shortened even further some years later. The Annett Locked crossover between the main line and No 2A road, together with the up departure home signal, was removed on 9 July 1942.

Switching facilities were provided at Bet Bet on 21 March 1934 thus enabling economies to be made in staffing the station during periods of light traffic. As will be remembered Bet Bet was a seasonal staff station for some years but whilst it was open as such it was required to be attended for all trains. Switching instruments now enabled the station to be switched in for peak train operation and switched out at other times. Stations similarly equipped normally were staffed by only one man instead of two or three and a number of stations in Victoria were equipped at this time.

With the advent of the diesel electric locomotive, sectional running times have been reduced to the point where many small stations were not required to be staff stations any more. Bet Bet was one of these and for many years it was used less and less until 22 October 1981 when it was closed as a staff station. The instruments had been little used for some years prior to that date even taking into account the large number of wheat trains operating between Dunolly and Geelong, diesel hauled trains traversing the section between Dunolly and Maryborough without causing much delay to other trains. The arrangements at Bet Bet when closed as a staff station are shown in Figure 3.

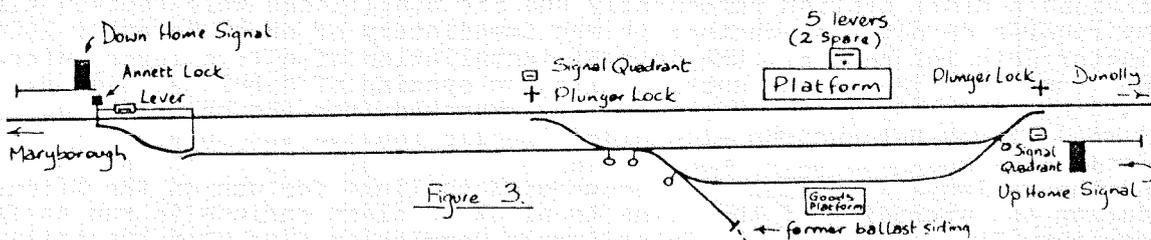


Figure 3.

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MINUTES OF NOVEMBER 1983 MEETING

- HELD AT: A.R.H.S. Library Room, Windsor Railway Station.
- MEETING COMMENCED: at 2013 hours.
- PRESENT: J.McLean, G.Inglis, D.Langley, W.Brook, J.Brough, R.Crosby, J.Churchward, M.Barnes, B.Wooding, J.McCallum, C.Rutledge, S.McLean, A.Jungwirth, K.Lambert, R.Weiss, P.Stoneham, R.Jeffries, J.Sinnatt, P.Miller.
- The Group Leader welcomed visitor Noel Reed to the meeting.
- MINUTES OF PREVIOUS MEETING: adopted as read (Brough/Crosby)
Minutes of July meeting adopted as read (Churchward/
Rutledge)
- BUSINESS ARISING: 1. Winter's Block centenary - Jack McLean explained that his date 13 August 1913 was based on information once obtained from papers by Leo Harrigan.
- CORRESPONDENCE: Inwards - from South Australian Signal and Museum Society Inc. re exchange of journals.
from A.R.H.S. (Vic) acknowledging the \$20 donation from Philip Barker, Albion, Qld. re membership inquiry of the S.R.S.V.
Outwards - nil
- LIFE MEMBERSHIP: Moved A.Jungwirth and seconded J.McCallum that Alan McKenna, shortly to retire from the V.R., become a Life Member of the Signalling Record Society (Victoria). This proposal was adopted unanimously by members present.
- GUEST SPEAKER: Mr. Noel Reed of the SRA was introduced by Jack McLean. Noel then spoke for over an hour and a half of past and present happenings in signalling in New South Wales which was appreciated by those present.
- MEETING CLOSED: at 2255 hours.
- NEXT MEETING: Friday, 18 February 1984.

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SIGNALLING RECORD SOCIETY (N.S.W.)

1984 TOUR PROGRAMME

- Saturday, 18 February - Wollongong, Bellambi, Bulli, Thirroul, Scarborough, Coal Cliff.
start at Wollongong station at 0900 hrs.
- Friday, 13 April - Union Street, Murray Street, Darling Island (all Darling Harbour) start at Darling Harbour station master's office at 1300 hours.
- Saturday, 16 June - Toronto, Passifern, Awaba, Morrisett, Wye, Gosford. start at Toronto station at 0900.
- Saturday, 13 August - Warwick Farm Junction, Warwick Farm, Sefton Park Junction, Regents Park.
start at Warwick Farm Junction at 1130 hours.
- Friday/Saturday, 19 & 20 October - Manildra-Bathurst East inc.
start at Manildra at 0900 hours.
- Saturday, 8 December, - Parramatta, Granville, Clyde, Auburn.
start at Auburn at 1200 hours.

For further information about these tours or any other matter relating to the N.S.W. Group of the Signalling Record Society contact Bob Taaffe, 11 Deribong Place, Thornleigh, NSW, 2121. Telephone: 02 - 8489994.

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Interlocking on the Victorian Railways (continued from page 20)

Errata: }b. Frankston. (published in November 1983 issue)

Frankston is not arranged as described but is fitted with a crosslock lever. The hand gates at Frankston close across a single line and so two gates are provided. Due to the swing of the gates, one gate must be worked first, as if both were worked together they would hit.

The gates must be swung in order and with the gates closed across the railway, the crosslock lever prevents any applicable signal being worked. To allow a train to pass, the first gate is swung across the roadway. This gate has an Annett Key attached on a short piece of chain and is inserted into an Annett Lock on the gate post when the gate is fully closed. This frees the second gate which is then also closed across the roadway and a similarly attached Annett Key is inserted into another Annett Lock on the other gate post. Turning this key in its lock releases the crosslock allowing the crosslock lever in the signal box to be operated releasing the necessary signals.

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No Van in the Rear (continued from Page 19)

When vans have been removed from trains because of hot boxes, there is little difficulty obtaining permission for the train to continue without a van at all - the general rule seems to be that the set may continue until it gets back to Melbourne where a new van must be found.

Adjoining systems have not yet become as enlightened as the V.R., so interstate trains continue to run with vans at the rear, and to be remarshalled at each end of the journey. However, at least one of the Sunday package tours operated by the Intercapital Daylight set has returned from Albury to Melbourne with the van at the front.

Lists still do exist of which passenger trains are allowed to trail VBPY vans "behind the train"; however, in practice any passenger train is liable to run with such vans at either end. The evening up Albury train has had up to four parcel vans ahead of the train van, effectively putting the guard in the middle of the train.

With the "N" sets, country Harris sets and second-generation sets of cars, all designed with a van at one end only, it appears that V.R.'s. new style of operation is here to stay. And not only does the whole railway benefit from the reduction in shunting, the passenger benefits from a lovely rear view out of nearly all up trains.

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