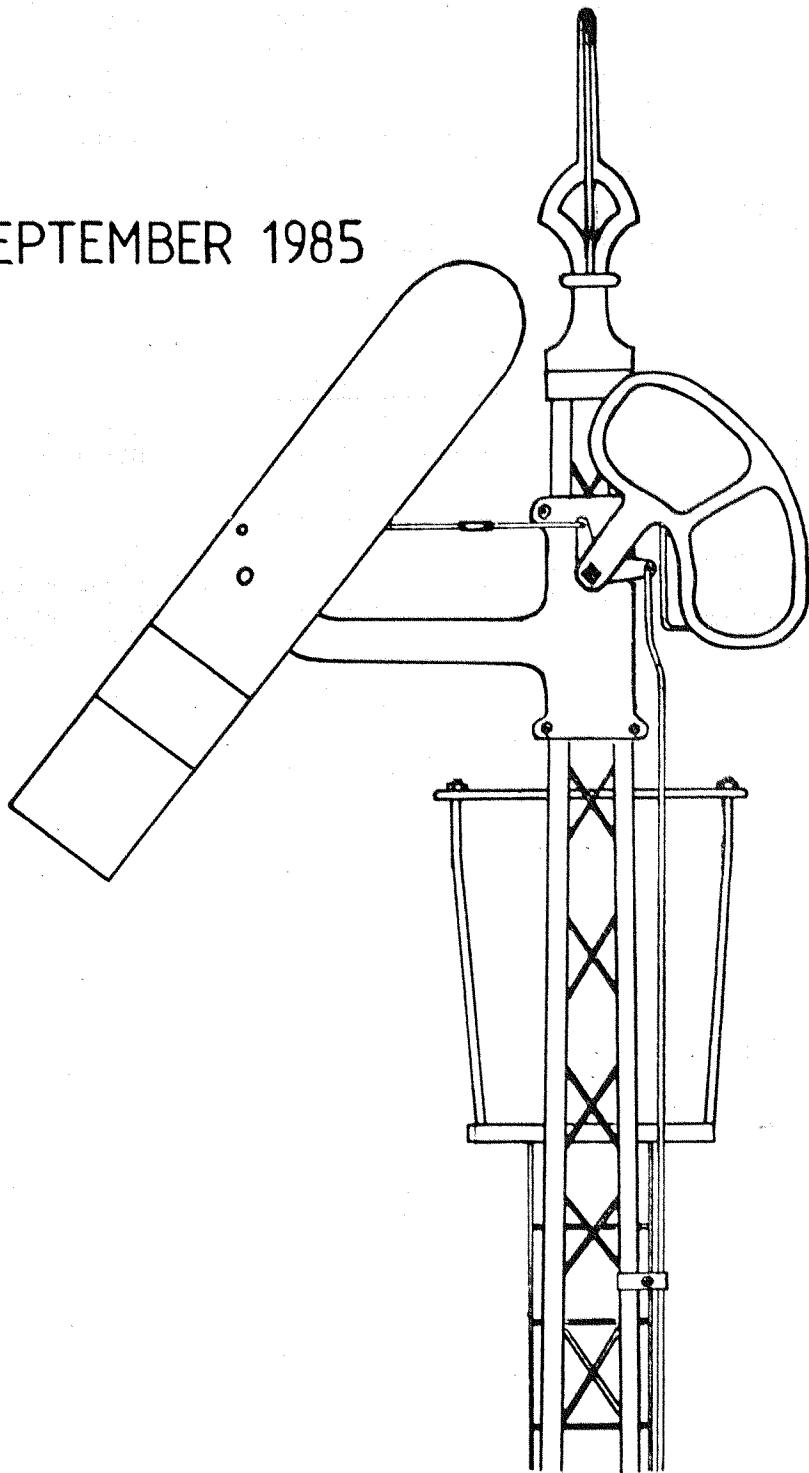


# SOMERSAULT

SEPTEMBER 1985



# SRSV

Editor: David Langley, Crichton Street, Avenel, 3664.  
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Victorian Group Leader: Jack McLean, 60 Kenmare Street,  
Box Hill North, 3129. Phone: 03-8906764.  
Victorian Group Treasurer and Subscription Manager:  
Rob Weiss, 40 Shady Grove, Nunawading, 3131.  
Phone: 03-8781305.

New South Wales Group Leader: Neil Curryer,  
20 Elton Close, Adamstown Heights, NSW. 2289.  
Phone: 049-437404.

#### MINUTES OF JULY 1985 MEETING

There are no minutes for the July 1985 meeting because the entire meeting was taken up by the first portion of a talk by John Sinnatt on Level Crossing Protection.

Members present at Windsor on that night were:

Jack McLean, John Sinnatt, Jim Brough, Wilfred Brook, Bill Bates, David Langley, Stephen McLean, Warren Doubleday, Tom Deveney, Jon Churchward, Roger Jeffries, Colin Rutledge, Tony Kociuba and Alan Jungwirth. A welcome was extended to visitors Iain Stuart, I. Mathews, John Francis and Geoff Larmer.

SIGNALLING ALTERATIONS

- \* 14/6/1985 ARARAT-PYRENEES LOOP-GREAT WESTERN LOOP. New signalling diagrams Nos 10/85 (Ararat) and 12/85 (Pyrenees Loop-Murtoa) were issued and diagram No 34/84 (Ararat) was cancelled. Owing to the arrangements at Stawell, portion of diagram No 32/84 (Great Western Loop), diagram No 18/77 (Stawell) and diagram No 2/85 (Deep Lead Loop to Murtoa) will remain in service. The electric staff section Ararat to Great Western Loop was abolished and replaced by the Automatic and Track Control system between Ararat and Pyrenees Loop, and between Pyrenees Loop and Great Western Loop. Pyrenees Loop is controlled from a local control panel. Up repeating signal A2138 was converted to a home signal No 214/10 and down repeating signal A2287 was converted to an automatic signal with the same number. Various two position home signals were converted to three position signals.
- WN 25/85 NORTH DYNON (STANDARD GAUGE). Audible and visual warning devices were provided at the Northern end of A and B platforms for the purpose of indicating when vehicles are to be moved in or shunted into A, B, K, L platforms and the lead into Manildra siding.
- \* 15/6/1985 LILYDALE. New signalling diagram No 27/85 (Lilydale) was issued and the Lilydale portion of diagram No 9/84 was cancelled. Three position signalling was provided at Lilydale in lieu of the two position signalling with plunger locking. The points and signals are controlled from a relay interlocking panel in the station. Boom barriers were provided at Maroondah Highway and Cavehill Road together with pedestrian boom barriers. Pedestrian barriers were also provided at the station entrance pedestrian crossing. The parcels access crossing is protected by a manual boom barrier secured by an Annett Lock, the key to which is secured in an electrically crosslocked Annett Lock at the barrier. The crossover between No 2 road and the Coldstream line is also Annett Locked with the key secured in an electrically crosslocked Annett Lock near the crossover.
- Signals LIL300, LIL301, LIL302, LIL303, LIL305 and LIL307 are interlocked with the boom barrier circuits and are time delayed to clear when the controlling lever is reversed with the approach section occupied. LIL300 may be operated by a local push button at Cavehill Siding provided that the lever on the control panel has also been operated.
- Signal LIL306 displays a "Low Speed caution" aspect only and then only when cleared for siding "D". If the crossover has been set for the Coldstream line, the signalmans verbal authority and a green hand signal held steadily are required to pass the signal. A signalmans caution order is required if the signal fails when cleared for the siding.
- WN 26/85 DRIVERS RELIEF ORDER. Commencing forthwith drivers relief order 227 is to be used on all single line systems. The use of relief order 225 is to be discontinued.
- \* 26/6/1985 MORELAND. Road traffic signals at Cameron Street and Moreland Road were co-ordinated with the interlocked gates at Moreland. Lever 23 has been provided with an electric lever lock and a call cancel push button and indicator was provided on the block shelf near lever 23. This equipment is used to initiate the co-ordination.
- \* 29/6/1985 MOOROOLBARK. New signalling diagram No 1/85 (Ringwood East-Lilydale) was issued and diagrams Nos 9/84 (Ringwood East-Lilydale) and 27/85 (Lilydale) were cancelled. The electric staff system between Mooroolbark and Lilydale was replaced by the Automatic and Track Control system. The mechanical interlocking frame at Mooroolbark was abolished and Mooroolbark is now controlled from the relay interlocking panel at Lilydale, all mechanical signals and points being replaced by three position signals and power operated points. No 1 road is signalled for up and down moves, whilst No 2 road is signalled for down moves only. Signals MLK300 and MLK301 are interlocked with the boom barriers at Manchester Road, and signal MLK301 also is control-

Mooroolbark may be switched out independently of Lilydale but must be switched out prior to Lilydale and can not be switched back in until Lilydale has been switched in. When Mooroolbark is switched out, all trains will travel via the up platform at Mooroolbark. The operation of the various points and signals at Mooroolbark is controlled via a three position Traffic Direction lever on the control panel, the positions being Up, Stop and Down. Illuminated letter "A" lights are provided on signals MLK300, MLK301 and MLK 303. A block free light will be illuminated when there is no train between signals MLK301 and LIL303, LIL305 and LIL307 and when so illuminated, the direction of traffic may be reversed. A 5P key operated switch for MLK301 is provided at Mooroolbark so that when Mooroolbark and Lilydale are switched out, or the remote control system has failed, a down train may terminate at Mooroolbark and depart in the up direction.

When Lilydale is switched out, trains will arrive and depart from No 2 road. A 5P key operated switch is provided on the Lilydale platform so that LIL305 may be cleared when an up train is to depart.

If the remote control system between Lilydale and Mooroolbark fails, Mooroolbark will attempt to switch out automatically after two minutes, however, all routes established prior to the failure will be held until cancelled by train movements. A 5P key operated switch is provided at MLK304 in order that a train may be released from No 2 road under failure conditions. Operation of the key will, subject to the Traffic Direction lever being placed in the down position, operate points 202 reverse and clear signal 304. After the train clears the points, they will run to normal and the switching out procedure will continue.

WN 27/85

ARARAT. A reduced copy of signalling diagram No 12/85 (Ararat) has been published and goes with the alterations of 14/6/1985.

These diagrams are frequently published in the Weekly Notice but a separate reference is not made because it usually accompanies the information regarding the alterations.

\* 1/7/1985

STRATHKELLAR. The main line points have been spiked normal and will be removed at a later date. (Is this the closure of this station?)

\* 13/7/1985

ALTONA JUNCTION-WESTONA. Boom barriers were provided at Civic Parade (upside of Seaholme), Millers Road (down side of Seaholme) and Pier Street (upside of Altona). Automatic signal WR595 was abolished and two new automatic signals WR574 and WR579 were provided. WR574 is interlocked with the booms at Civic Parade, WR579 is interlocked with the booms at Millers Road and existing automatic signal WR608 is interlocked with the booms at Pier Street. 5P key operated switches were provided at either end of Seaholme platform in order that the respective automatic signal can be held at Stop in the event of a delay to a train at Seaholme. WR608 can also be controlled in a similar fashion at Altona, although this 5P key switch has been there for some time.

WT0704, up departure home signal, at Westona has been provided with a co-acting signal on the right hand side of the line and WT0705, down departure home signal, was altered to display Normal Speed aspects. A curve board has been provided at the down end to regulate the speed of trains departing from Westona.

WN 30/85

ALTONA JUNCTION-WESTONA-LAVERTON. New signalling diagram No 5/85 was issued and diagram No 17/85 was cancelled. (Yes that is the correct way round?)

20/7/1985

HEATHMONT-BELGRAVE. New signalling diagram No 39/85 (incorrectly shown as Belgrave-Heathmont) was issued and diagram No 35/82 was cancelled. Boom barriers were added to the flashing lights at Hilltop Road level crossing at the up end of Upper Ferntree Gully station. An audible warning device is provided on the control panel and will sound when signal lever No 20 is reversed.

the upside of Neerim Road level crossing. The baulk permits 620 m

- \* 20/7/1985 DEEP LEAD LOOP-LUBECK LOOP-MURTOA. The automatic and track control system was replaced by the Centralised Traffic Control system and the signal panels at Lubeck and Deep Lead were abolished. The points and signals at these stations are now controlled from the control panel in Melbourne. Murtoa can now switch in or out as required.
- 24/7/1985 ARARAT. The down end signals Nos 211/30, 211/32, 211/34 and 211/36 are now released by the CTC panel in Melbourne.
- \* 26/7/1985 GREAT WESTERN LOOP-STAWELL-DEEP LEAD LOOP. The signalling arrangements as shown on diagram No 12/85 (issued on 14/6/1985) were brought into use and diagrams Nos 18/77 (Stawell), 32/84 (Great Western Loop) and 2/85 (Deep Lead Loop-Murtoa) were cancelled. The signal boxes at Pyrenees Loop and Great Western Loop were abolished and these loops are now controlled from the CTC panel in Melbourne. The signal boxes, mechanical signals and interlocked points at Stawell were abolished and the connections from the main line to the goods yard are now secured by outlying switch locks. The automatic and track control system between Ararat and Great Western Loop, and the electric staff system between Great Western Loop, and Stawell "A", and between Stawell "B" and Deep Lead Loop were abolished and replaced by the Centralised Traffic Control system of signalling on the sections: Ararat-Pyrenees Loop-Great Western Loop-Deep Lead Loop.
- )\* 9/8/1985 GEELONG "A" BOX. Both ends of No 19 and 21 points, and the down end of No 24 points were abolished. Plungers Nos 18, 20, 22 and 25 were abolished. The up end of No 24 points remain insitu but are spiked normal. Levers Nos 19, 21, 22, 24 and 25 were sleeved normal whilst levers Nos 18, 20 and 35 became pilot levers.
- 10/8/1985 WESTALL-YARRAMAN. New signalling diagram No 35/85 was issued and diagram No 6/75 was cancelled. Automatic signals D780 and D825, and Home signal D806 were abolished. Automatic signals D780, D810, D826, D862, D809, D829 and D845, and Home signal D794 were provided. Boom Barriers and Pedestrian Boom Barriers were provided at Corrigan Road.
- WN 33/85 AUTOMATIC AND TRACK CONTROL SYSTEM. Add the following to p163, second column, as a new clause (h) to Rule 4. -
- (h) When the Medium Speed indication is displayed for a train to depart from No 2 road or when a Dwarf Signal is at proceed for a train to depart from No 3 road at a crossing loop, the speed restriction specified will only apply until the train has cleared the points protected by the signal.
- Regulation 59, clause (e), is modified accordingly.
- \* 13/8/1985 FLEMINGTON RACECOURSE LINE. New signalling diagram No 41/85 was issued and diagram No 12/65 was cancelled. At Showgrounds Box, Siding "A" and the track to the goods platform were abolished. Levers Nos 6, 7 and 9 were sleeved normal and lever No 11 was sleeved reverse. At Flemington Racecourse, No 4 road between the loop line and the buffer stops, the crossover between "A" and the up line, the connection between No 1 and "C", the connection between "C" and No 5 road and the Locomotive Road were abolished. All signals associated with these connections were removed and signal posts Nos 69B, 71, 74 and 76 were abolished. No 5 road was renamed No 4 road. Levers Nos 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 20, 24, 25, 27, 28, 29, 30, 32, 34, 36, 37, 41, 43, 45, 46, 47 and 57 were sleeved normal.
- 000--
- The following alteration has only just been published but it can be seen that it has been in service for some time.
- 23/5/1985 SPENCER STREET PASSENGER YARD. A push button system has been installed at Spencer Street to permit shunters to request the Area Controller Metrol to set routes around the passenger yard. The object of the buttons is to reduce the need for phone communication between the shunters and Metrol. The push buttons are located adjacent to

THE TATURA MIXED WAS LATE (A hundred years ago)

by Jack McLean.

My attention was drawn (by several people) to a paragraph in The Age for Tuesday, 9 July. It was in the column "A Hundred Years Ago Today" and read as follows:

"Tatura, Wednesday, Great excitement was caused here last night by the non-arrival of the down train till eleven o'clock pm, just two hours behind time. The reason for the delay was the arrival at Mangalore of the up train from Shepparton without the staff and the train was consequently detained causing a block in the Goulburn Valley line. A horseman was sent to Nagambie for the missing staff where it was accidentally left and on its arrival the trains were allowed to proceed. Much discomfort was suffered by the passengers who were kept so long in the cold. An official inquiry will be held. The Age, 9 July."

Reference to the Service Time Table for 1 October 1884, which was possibly current at the time of this event, we find that the 2.45pm mixed from Numurkah stopped at Shepparton for ten minutes before leaving there at 3.55pm. At Toolamba, it connected with the 3.55pm up mixed from Tatura (then the end of the line). At Mangalore (6.25-6.35) it met the down mixed, and at Seymour - after waiting for over an hour - it connected with a passenger train to Melbourne. Meanwhile, the 2.55pm down passenger after arriving Seymour at 5.19pm, connected with the 6.5pm down Numurkah mixed which was due through Mangalore at 6.25pm. The Tatura mixed connected at Toolamba and reached the end of the Tatura line at 8.53pm.

The staff could have been found just after the up train had left Nagambie at 5.51pm and I wonder how long it would take an equestrian to ride 10.5 miles. Maybe not two hours but then perhaps the horse had to be caught first.

Remember too, that this was July 1885, only 15 months after the disastrous head-on collision between the down passenger and an up goods on the down side of Werribee, because the Stationmaster's daughter, on duty illegally, had sent the down pass on with the staff and then telegraphed a Line Clear to Little River for the goods. One would not expect Line Clears to be regarded with any enthusiasm as a result.

This is borne out by Rule 481 in the May 1885 Rule Book which gives practically no details on how the staff system may be suspended. "The responsibility of suspending the staff system will rest, in cases of extreme emergency with the General Traffic Manager, the Assistant GTM or the District Traffic Superintendent; and they will only incur such responsibility in the event of absolute necessity." The Stationmaster nearest the point at which the cause for suspension arises (in this case Mangalore), must at once communicate with the DTS (in this case Seymour) and the latter etc etc, may send telegrams to such Stationmasters instructing them how to proceed.

Where was the DTS Seymour on that Tuesday night? Perhaps he was at a meeting of the Methodist Sunday School Teachers, or otherwise incommunicado. In any case his authority does not seem to have been requested. Perhaps it was quicker to gallop 10.5 miles than to go through all the red tape by telegraph.

After a hundred years, who knows?

--00o--

(continued from p 71)

he would push a button labelled 8 CS No 10 located in a box adjacent to post phone No 507. The pushing of the button would be indicated on the Area Controllers diagram by a flashing 10 in the occupied track section associated with platform 8. This indication will be cancelled when either signal 507 clears or the cancel button has been pushed by the shunter at that push button station. Push button stations are located adjacent to signals Nos 500, 501, 502, 505, 507, 509, 536 and 548.

--00o--

MILEPOSTS I HAVE PASSED

by E. H. Ballard

(Reprinted from The Victorian Railways Magazine,  
August 1928 and was sent in by Norm de Pomeroy.)

Nearly half a century ago, there arrived in Melbourne an English youth with an Edinburgh University honours matriculation certificate, 18 months experience with an engineering firm, a determination to make good and very little else. His name was Edward Henry Ballard. His career, from that date until 31 July 1928, when he retired from the position of Victorian Railways Chief Engineer of Way and Works, is marked by a succession of important engineering mileposts, some of which he describes in this article, and to the erection of most of which he has in no small degree contributed.

After eighteen months general experience in the shops and drawing office of Palmer's extensive engineering works at Jarrow-on-Tyne, in the North of England, I decided to visit Australia, and at the age of 18 arrived in Melbourne in 1881, my assets being practically limited to my University certificate and a few letters of introduction, including one to Mr. Elsden, then Engineer-in-Chief for Victorian Railways, who promptly placed me in the Construction Branch as a chainman.

The survey party to which I was attached was engaged on the proposed line from Castlemaine towards Laanecoorie under the direction for Mr. F. Rennick - who afterwards became Engineer-in-Chief - and the chainmen included E. Norman, a brother of the late Chairman of Commissioners, and A. Lunt, whose father was afterwards appointed Chief Engineer for Existing Lines. Mr. H. Chase who was Mr. Rennick's field assistant, and subsequently filled a high position in the British Admiralty, gave close personal attention to the training of his juniors, and I thereby acquired much useful knowledge during my twelve months service in the survey camp.

In 1882, I accepted the office of a cadetship in the Mango Island Co., Fiji. The Company's plantations were under cotton, but decision had been reached to cultivate and manufacture sugar, and an order for the sugar mill had been placed on the understanding that an engineer would accompany the machinery from Glasgow. Prior to the Engineer's arrival it devolved upon me to prepare the mill site, build workshops, etc., and construct some miles of tramway. The labour comprised 1,400 Polynesians with a white staff numbering only nine. The mill engineer on his arrival constituted me his assistant, and from his world-wide experience generously imparted to me a great deal of sound advice and instruction. He left Fiji on completion of his contract, and I became assistant manager of the company's properties on the islands of Mango, Kanacia and Cicia, which position I resigned in 1886, feeling - at the age of 23 years - that the field for my activities would be too restricted in Fiji.

Back to the Railways

On returning to Melbourne, a visit to Mr. Lunt, then Chief Engineer for Existing Lines, secured my re-employment in the Railways Department, and in October 1886, I was placed as surveyor and draughtsman in the office of Mr. T. Woodroffe, who at that time was Assistant Engineer in charge of structures and water supply, and in 1887 I was transferred to Mr. Philpott, the Signal Engineer. The work of signalling and interlocking was very attractive to me, but the procedure then pertaining in the Signal Branch, under which all operations were camouflaged with a veil of mystery, was repugnant.

With misgivings I ventured to express my view that everyone engaged on the work in the office, field and workshop, from the bosses to the boys, should be given every facility and inducement thoroughly to understand the principles governing the details of their work. Mr. Philpott concurred and authorised me to effect this radical change of policy. My action in this matter was largely conducive to my promotion in 1890 to the position of Assistant to the Signal Engineer. My duties in the latter capacity caused me to spend three-fourths of my time outside the office and, as the interlocking system was then being rapidly extended through out the state, I was brought closely in contact with train-running operations, and with the practical work of the permanent-way staff. As Assistant to the Signal Engineer I was instrumental in standardizing the various parts of the apparatus used for signalling and interlocking purposes which had previously been of several different types.

Prior to 1893, the survey work and preparation of plans for station yards devolved upon two officers, Mr. J. Bragge and Mr. J. McPherson, who retired about the same time that Mr. Philpott left the service. Mr. C. E. Norman, then recently appointed as Chief Engineer of Way and Works, decided that the survey and plan work, together with the signal and interlocking work should be amalgamated under my control. My classification was therefore altered in 1893 to Assistant Engineer, and again, in 1897, to Superintendent of Signals, the duties of my position remaining practically unaltered, although the volume of work greatly increased.

As Superintendent of Signals, I made radical alterations to the signalling and interlocking systems. The signal lights were previously white for "clear" and red for "danger", and drivers were apt to mistake street lamps for railway signals, but even greater risks of disaster occurred when the red glass broke or fell out of the spectacle fitting, thereby showing a white "all right" indication when the signal was at danger. The fittings were therefore altered throughout the state to show green for "clear" and red for "danger". The levers of mechanical interlocking apparatus installed by the Way and Works Branch were independent of electrical block instruments installed by the Telegraph Branch, and some serious conflicts of signal indications were caused thereby, to obviate which electrical appliances - including track locking, signal reversers, etc. - were introduced to supplement the mechanical gear.

#### Station Yards Transformed

These innovations transformed the appearance of station yards at which, in accordance with the old regulations, the signals were located within 200 feet from the facing points which they controlled. North Melbourne is typical of the change effected under which a driver has to observe only one set of signals placed at the entrance to the yard, whereas he previously had to pick out from the forest of semaphore masts the signals applicable to his train which were grouped at intervals of about 100 yards between Moonee Ponds Creek and the station. My duties in connection with the planning of the station yards involved close personal co-operation with all responsible officers of the Operating Branches; and in this connection it devolved upon me to design the altered track layout between Jolimont Junction and Flinders-street viaduct to provide accommodation to suit 11 platformsfaces instead of the four faces then existing at Flinders-street station. Subsequently I supervised the track-work and signalling for this scheme.

In 1905, the Chief Engineer of Way and Works, Mr. C. E. Norman, decided to reorganise his administrative staff, and divide the principal activities of the Branch into three divisions, namely, Way, Works and Signals, each to be supervised by a senior officer to be known respectively as Engineer of Way, Engineer of Works, and Engineer of Signals. I pleaded for appointment to the latter position, but Mr. Norman insisted that I should give similar attention to the standardisation of materials and methods for the Way division as had been given by me for signal and interlocking work. I accordingly became Engineer of Way, retaining control of surveys and designs for track layouts. Under the altered organisation, the repairers, gangers and Roadmasters came under supervision of the Engineer of Way, and the artisans, foremen and Workmasters under the Engineer of Works, and trouble was thereby experienced in properly co-ordinating the work of the two divisions. My representations that District Engineers should be appointed to control both Way and Works activities were vetoed by Mr. Norman and afterwards by Mr. J. H. Fraser, who succeeded him as head of the Branch.

#### Big Suburban Jobs

During the three years, 1912 to 1915, my time was largely occupied in supervising the duplication and regrading of the tracks between South Yarra and Caulfield, which involved lowering about 16 feet the track level between South Yarra and Malvern, and raising the level to a similar height between Malvern and Caulfield, incidentally providing bridges at seven busy highways where level crossings previously existed. The operations were completed without interference with the scheduled running of trains. Surplus filling to the extent of about three-quarters of a million cubic yards was transferred from the Caulfield line to Tottenham, where it formed the nucleus of the embankment for the marshalling yard which was afterwards constructed. The regrading of the Box Hill line between Hawthorn and East Camberwell was commenced in 1915, but, owing to the war,

I was closely associated with the electrification of suburban lines and the biggest job which devolved upon me in this work was the preparation of the power-house site at Newport. A site was previously selected at Spotswood, but when the construction of power-house machinery was well advanced in England, it was found that suitable water supply could not be obtained at Spotswood, and the site at Newport was therefore selected. Contractors for the electrification scheme were much perturbed as to whether the Newport site could be made ready for the arrival of the machinery, the work involving the excavation of about 50,000 cubic yards of rock, the provision of concrete foundations for the plant and buildings, of the boiler, engine and switch house, and construction of suction and discharge culverts, etc. I accepted responsibility for the operations which were commenced late in 1913 and completed in the following year, well ahead of the specified time.

In 1914 I was appointed Assistant Chief Engineer of Works, and in 1918 succeeded Mr. Fraser as Head of the Branch.

One of my first administrative acts as Chief Engineer of Way and Works was to secure Commissioners' approval to the appointment of District Engineers who became responsible for the co-ordination of operations in their respective districts. Readjustment of responsibilities devolving upon various Branches, a consequent upon the expansion of railway business, necessitated demarcation of activities in the Branches concerned, and for this purpose, I was chairman of the committee which in 1922 allocated the duties appertaining to the Way and Works, Electrical Engineering and Signal and Telegraph Branches when the latter was established as a separate Branch. I was also chairman of the committee which in 1923 defined the procedure to be adopted by the several branches engaged in providing overhead equipment for railway electrification.

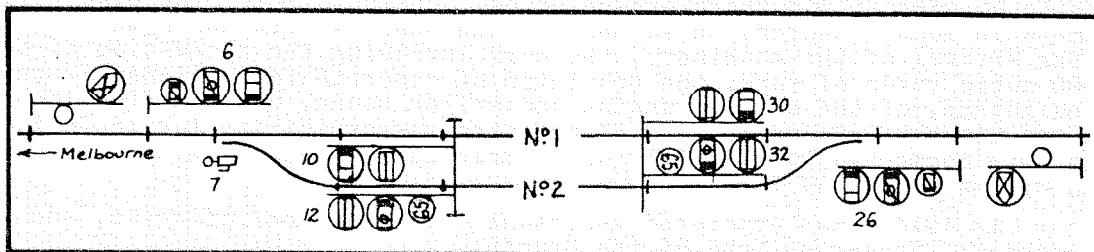
#### New £220,000 Workshops

The position in respect of workshop accommodation for the Way and Works Branch was for many years unsatisfactory, the woodworking division at North Melbourne being located a mile distant from the ironworking division at Spencer Street, thereby affecting adversely the co-ordination and proper supervision of operations. Although the Commissioners were sympathetic, funds could not be made available for amalgamation of the shops until 1925, when the erection of new workshops was commenced at Spotswood on a site adjacent to the General Store and Newport Workshops. The new shops are laid out on modern lines, with due regard to the welfare of the employees, the cost involved being about £220,000. The ironworkers vacated the old shops at Spencer-street in 1927, and all other workmen will be transferred to Spotswood this year, and the achievement, although belated, will realise one of the most ardent desires in recent years.

The standardisation of engineering methods and materials has been, and still is, of keen interest to me, and, in this connection, I have had much to do with matters dealt with annually at Australasian Railways Conferences, and was closely associated with the Royal Commission on Uniform Railway Gauge for Australia. When the Federal Government, in 1922, founded the Australian Commonwealth Engineering Standards Association, I was appointed the Victorian State Representative, and in 1926, the Association elected me Vice-Chairman, which position I still retain. Some hundreds of eminent engineers throughout Australia are giving their services voluntarily to the work of the Association, and many sectional committees are functioning, for one of which, the Railway Permanent Way Materials Sectional Committee, I am Chairman. In 1926, the Federal Government inaugurated the Australian Commonwealth Association of Simplified Practice on which I am also the Victorian State Representative. The government, on the advice of the Commissioners, has agreed to retain my voluntary services after I retire from the department as Victorian State representative on both the Engineering Standards and Simplified Practice Associations. The work will, incidentally, keep me in touch to some extent with the interests of the Railway Service.

Since I entered the Service the track mileage in Victoria, which exceeds 6,000 miles, has increased five-fold. The staff employed in the Way and Works Branch now numbers over 7,000 and the annual expenditure by the Branch has risen from approximately £400,000 to £2,325,000, the latter figure representing, in round numbers, the average expenditure for the past five years, including costs of maintenance and capital works. As a permanent officer, I have served under eight Chairmen of Commissioners and four Chief Engineers.

ARARAT - WOLSELEY  
 CENTRALISED TRAFFIC CONTROL SYSTEM  
 General Appendix 183-188



Principal Features

The above diagram indicates the typical layout of signals at the crossing loops. The principal features provided, which differ from the North-East Standard Gauge installation, are:-

- (a) Each crossing loop has standing room of 1450 metres between departure signals with 100 metres overrun at each end giving an effective crossing loop length of 1550 metres.
- (b) The installation of high speed turnouts are signalled for 40 kmph in the facing direction and 65 kmph in the trailing direction.
- (c) The provision of an illuminated 65 Kmph indicator associated with the medium speed aspect on the departure signals from No 2 road.
- (d) Two opposing trains may simultaneously be signalled into the crossing loop on different roads on approach operated and speed proved medium speed warning aspect (40 Kmph) signals. This situation requires that both trains will have initially passed a normal warning aspect on the arrival automatic signal before a speed proved and approach operated medium speed warning aspect is displayed on the home arrival signals.

EMERGENCY FEATURES

Pilotman's Key

These are located in the telephone cabinets adjacent to the home signals at each end of the crossing loop. On each of the pilot key boxes is an indicator and this is illuminated when the signalling has been secured following the removal of the pilot key.

Emergency Automatic Mode

In the event of a failure of the remote control system, the crossing loop will operate automatically permitting trains to enter either No 1 or No 2 road in the following sequence:-

- (a) When the failure occurs, all signals will be automatically restored to stop with the normal approach locking provided.
- (b) The first train to occupy the approach section to the loop (extending beyond the approach automatic signal) will be automatically signalled into No 2 road (providing it is unoccupied) with the usual speed proving and approach operation applying on the home signal. If a second train occupies the approach track section from the opposing direction it will be automatically signalled into No 1 road.

The above movements are permitted to occur simultaneously when the system is in the automatic mode.

- (d) If the second train is from the same direction as the first, it will not be automatically signalled past the home arrival signal whilst the first train is occupying No 2 road. The automatic mode condition will not permit one train to overtake another, if this is necessary then an order will be required to pass the Home Arrival signal.

- (e) The Home Departure signals will not operate automatically. A manual control is provided with a 5P key switch for each signal which is located in the telephone cabins. These key switches must not be operated without first obtaining verbal permission from the train controller. A notice reading "TRAIN CREWS MUST OBTAIN PERMISSION FROM THE TRAIN CONTROLLER PRIOR TO THE OPERATION OF THESE 5P KEY SWITCHES" is provided above the key switches.

#### Emergency Control Panels

Facilities are provided at each end of the crossing loops for local operation with an emergency control panel. This panel is portable and is located in a central locality in order that it may be transported to any location. There are four (4) panels for the Ararat to Wolseley section.

When it is necessary to transport a panel to a location, plug it into the system in the relay room so that the signalling maintenance diagram may be utilised as the track indication diagram. Indications will only be shown on the track indication diagram.

The panel will not be effective until it is switched in with the 4D key switch. The security of the key will be arranged by the Regional Operations Manager (western). When the panel is switched in, all signals will be automatically restored to stop and all commands from the Train Controller ineffective.

The relay room will be utilised for operation purposes for short periods however, if the control period is for an extended period, the emergency control panel and track indication diagram will be located external to the relay room. The emergency control panel is clearly labelled showing the locations at which they may be utilised.

The Rules for Automatic Signalling on Single Lines and Remote Control of Points and Signals at unattended crossing loops contained in pages 183-188, General Appendix, are applicable to the Single Line Sections between Ararat and Wolseley with the following modifications:-

#### Rule 4, Clause (F), page 183

Signals	Indications
Arrival -	<p>(a) When the points are set for No 1 road and the home departure signal from No 1 road at the far end is at proceed - CLEAR NORMAL SPEED.</p> <p>(b) When the points ahead of the signal are set for either No 1 or No 2 road and those at the far end are set for a cross - MEDIUM SPEED WARNING.</p> <p>(c) During failure conditions, e.g., a track circuit failure, or a point failure at the far end of the loop, or when a train is required to enter an occupied road - LOW SPEED CAUTION.</p> <p>For the low speed caution aspect to be displayed the Train Controller must set the low speed control in addition to the signal control for the movement.</p>
Departure -	The home departure signal from No 1 road will display NORMAL SPEED - WARNING or CLEAR depending upon the aspect of the next fixed signal, and from No 2 road MEDIUM SPEED - WARNING or CLEAR depending upon the aspect of the next fixed signal.

#### Arrival Clearing Boards

These are provided in the rear of the home arrival signals at each crossing loop. When it is necessary for trains to cross at a crossing loop or at any time the home departure signal at the far end of the loop is at the stop position, the automatic signal in the rear of the home arrival signal will display a normal speed warning aspect and the home arrival signal will be at the stop position.

Under these conditions the speed of the train approaching the home arrival signal must be reduced so that it does not exceed 40 Km/h at the arrival clearing board.

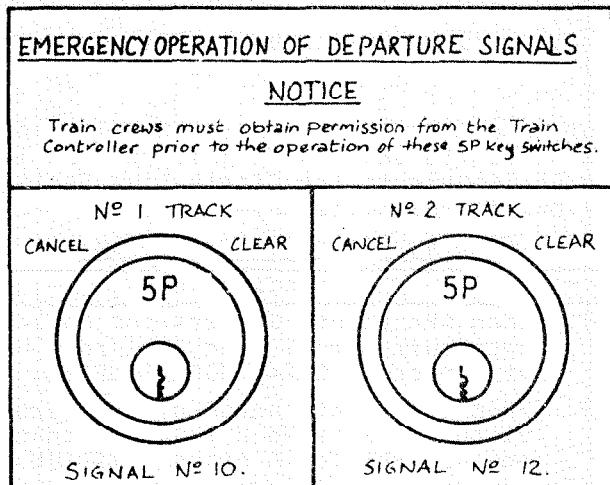
Subject to the proper conditions existing for a train to arrive in No 1 or No 2 road at the crossing loop and the speed of the train is reduced to 40 Km/h at the arrival clearing board, the home arrival signal will display a medium speed warning aspect.

Clause 5 - Home Signals (page 184)

A 5P emergency key switch is provided in the telephone cabins at each end of the crossing loop to enable the home departure signals to be operated manually by the Driver as directed by the Train Controller when a failure of the Centralised Traffic Control occurs. Before operating the 5P emergency key switch the Driver must consult with the Guard by means of the end to end radio, and ensure that the Guard is fully aware of the direction of the Train Controller regarding the proposed movement.

The 5P emergency key switch is normally in the central position (12 o'clock) but when it is turned to the right to the 2 o'clock position a call is placed on the points to run to the track for which the key switch applies.

This call will only be effective if there is no opposing movement in the single line section. If the single line section is clear, the points will be free to run and when detected in their correct position and locked, the home departure signal will go to proceed.



The proceed aspect on the departure home signals will be cancelled by the passage of the train but the proceed aspect may also be cancelled if necessary by turning the 5P emergency key switch to the left (10 o'clock) position.

Crossing Trains (Page 185, Clause 10)

The reference made to the low speed indication does not apply. When trains are to cross, the medium speed warning aspect will be displayed after the proving has been effective.

Electric Switch Locks (Page 185, Clause 12H)

There are no cripple roads provided at the crossing loops.

NOTE:- When it is intended for a train to shunt at an intermediate switch locked siding and return to the crossing loop in the rear, the train must completely lock away at the switch locked siding before returning to the crossing loop in the rear.

Blocking Jacks (Page 185, Clause 14)

On this section a Blocking Command is used in lieu of Blocking Jacks. The effect of the Blocking Command is the same as prescribed for the Blocking Jacks.

Grade Crossings (Page 186, Clause 18)

There are no Grade Crossings between Ararat and Wolseley. This clause, therefore, does not apply to this section.

### SPECIAL ARRANGEMENTS

#### Controlled Automatic Signals

When switch locked sidings are located near level crossings equipped with flashing lights, the automatic signals placed close to these crossings are controlled by the Train Controller.

When a train is to shunt at the switch locked siding, the Train Controller may place the automatic signal to the stop position. This will avoid unnecessary operation of the flashing lights.

Key switches for local control of the automatic signal and flashing light signals are located in the telephone cabin near the points.

To control the flashing lights, a Stop/Start 1P-5P key switch labelled flashing lights is provided.

To place the automatic signal to proceed, the 5P key switch labelled with automatic signal number, must be turned to the clear (2 o'clock) position. To cancel, the 5P switch must be turned to the cancel (10 o'clock) position. To withdraw the 5P key switch, the switch must be turned to the central (12 o'clock) position.

The guard of a train that is to work at the siding must operate the appropriate key switch to place the automatic signal to proceed or to operate the flashing lights as required.

#### ARARAT

Before the signalman at Ararat can place departure signals 211/30, 211/32, 211/34 and 211/36 to proceed, the signalman must first obtain a release from the Train Controller for each train.

#### MURTOA, HORSHAM AND DIMBOOLA

Murtoa, Horsham and Dimboola may switch in for local operation or for branch line movements. Whilst Murtoa, Horsham and Dimboola are switched in, the home departure signals controlling entry to the Single Line sections will be operated by the signalman from the local panel.

Before the signalman at Murtoa, Horsham or Dimboola can place the home departure signals to the proceed position, he must first obtain a release from the Train Controller for each train.

Should the home departure signals fail at Ararat or Wolseley, and at Murtoa, Horsham or Dimboola (when switched in), the signalman at these locations will be responsible for receiving the Caution Order from the Train Controller, examination of the points and delivering of the Caution Order to the Driver.

In the event of the signalman at Murtoa, Horsham or Dimboola being unable to switch in after the Train Controller has given him a release, the signalman may obtain a release by operating the 5P release switch on the control panel.

Before operating the 5P release switch, the signalman concerned must obtain permission from the Train Controller. After obtaining permission from the Train Controller, the signalman must insert the 5P key in the release switch and turn the key fully to the right and leave the key in that position for five minutes after which the Local Panel may be switched in.

When switching in under these conditions, the signalman must obtain permission from the Train Controller before operating the Home Departure signals.

#### MURTOA AND DIMBOOLA

When Murtoa is switched out, the single line section will be Lubeck Loop - Murtoa Loop, and when Dimboola is switched out the single line section will be Pimpinio Loop - Dimboola Loop. Murtoa and Dimboola stations will become intermediate places and the signals can only be operated for one direction at a time, therefore clause 17, page 185 General Appendix will apply.

(a) Arrival Signals - The home arrival signals 298/26 and 298/10 at Murtoa and 262/6 and 262/26 at Dimboola, if at the stop position

EXAM PAPER

by Jack McLean

About thirty years ago I corresponded with a bloke in Tasmania, whose name I have unfortunately forgotten. He lived, I think, at Penguin. He wasn't a railwayman; I think he was a PMG telephone technician. At one stage, we used to work staff and ticket by correspondence. If I was sending him a parcel with a covering letter, I would send the letter "on ticket", followed by the parcel "on staff", and he couldn't reply until he had received the mail with the staff in it. The staff I think was a locker key.

Anyway, in the exchange of correspondence, he sent me this exam paper which I would think had been some PMG joke which had been translated into railway language. The only question I remember was something like this:

You are the night officer at one of these country stations at which the Commissioners have affectionately retained the staff and ticket system. You are on duty round mid-night waiting for the mail train. Seeking information on the mail's time keeping, you overhear on the party line at the next station something like "I bid three hearts" and there was obviously an exiting card game in progress.

When the mail eventually arrives, the fireman hands down, not the staff ticket for the section, but the Ace of Diamonds. What action would you take?

In my answer to this question, I wrote that I would send the "Stop and Examine Card Game" signal.

Back came a TELEGRAM from Tasmania.

"Congratulations. You have passed with honours."

Firstly, does anyone remember the bloke in Penguin, Tasmania, and secondly does anyone have any similar joke exam papers.

--ooO--

Ararat-Wolseley CTC Rules

(continued from page 79)

- (b) Departure signals - The home departure signals 298/30 and 298/10 at Murtoa, and 362/30 and 362/10 at Dimboola, become intermediate home signals and the authority to pass these signals in case of failure will be verbal authority of the Train Controller and the conditions of clause 18, page 186 General Appendix, must be carried out in so far as they apply.

WOLSELEY

Before the signalman at Wolseley can place the home departure signal to proceed, he must first obtain a release from the Train Controller for each train.

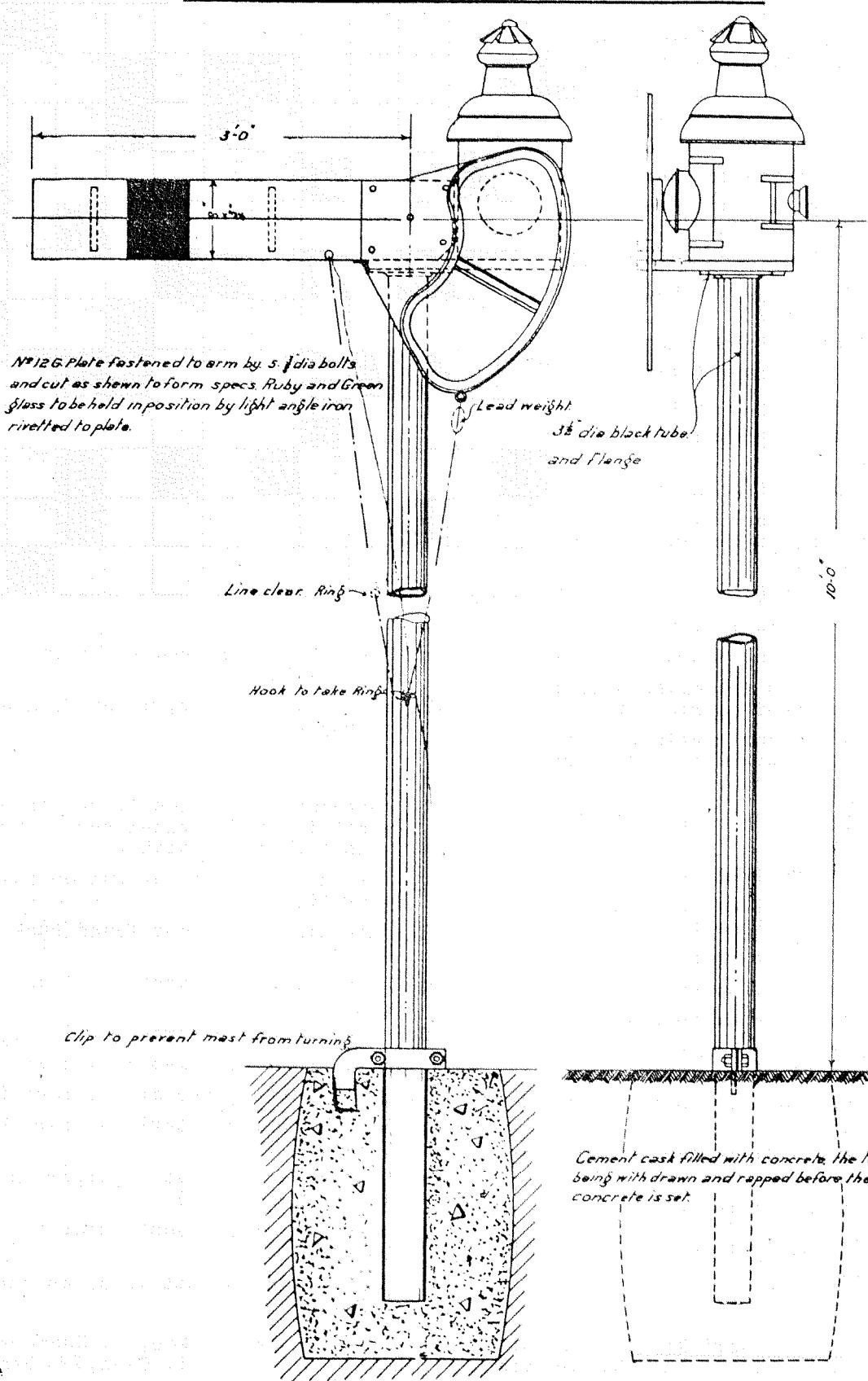
At Wolseley, the pilot key is located on the signal control panel in the signal box.

Before the Train Controller, Spencer Street, can place the down home departure signal at Leelor Loop to proceed, he must first obtain a release from the signalman at Wolseley.

--ooO--

# COMMONWEALTH RAILWAYS

## TEMPORARY SIGNAL



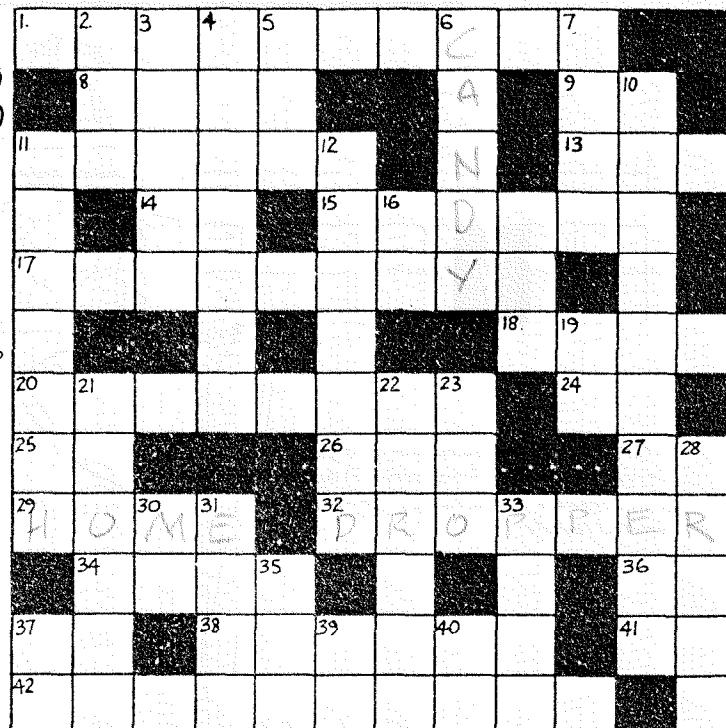
(Sent in by Warren Doubleday)

## S.R.S.V. Crossword No 11.

compiled by S. McLean

ACROSS

1. Perhaps chance Mail with manual interlocking (10)
8. This gate control can be found at some terminal stations (4)
9. Old electric in the morning (2)
11. What the hopper did to the track when it derailed (6)
13. Steal from the treasurer (3)
14. Initially the author of "The Railway Children" (1,1)
15. Section I of a named train (6)
17. Any trace of overhead wiring? Could be! (8)
18. Pb approach to sidings (4)
20. Cutting crossover! (8)
24. AN loco from Clyde (2)
25. Alternatively no longer listed (2)
26. Town on the Linton line (3)
27. Type of engine found on two-thirds of the Austrian system (1,1)
29. Not distant (4)
32. A piece of wire holds up No 17 (7)
34. Butt into a dead end siding (4)
- 36 and 37. Takes relieving officer to a compartment carriage (4)
38. They have four wheels but aren't associated with four wheelers (6)



41. Preceded by proceed in Train Order system (2)
42. Take key to Libby, upset Frances nearby (10)

DOWN

2. The Flier is not seen at this station (3)
3. Skylight in Ivanhoe (5)
4. Coal trucks found at a crossing on the Geelong line (7)
5. Time's up for this association (3)
6. Sweet NSW colour scheme (5)
7. Zhivago's favourite station (4)
10. No RM tablet exchange at this station (4,6)
11. J.D.McL's aboard on the Bolangum line (7)
12. Neil has a different crossing from 4 down (7)
16. One of the 15 railways (2)
18. Settled without passengers in the

21. Introduced classically reliable electric staff system yesterday at this former junction (6)
22. Put on a new rail or put on rail anew (6)
23. Safeworking officer found back in Broadmeadows (3)
28. Watery feature sometimes found in signalboxes (5)
30. Closer than 29 across! (2) (4)
31. Bury could be a gem of a station!
33. Stop altering the signal mast (4)
35. Robert leaves Interlaken for the Jungfrau (3)
37. Wilfrid is without a jumper in this carriage (2)
39. Suburban trains don't stop in
40. Swiss station that is up on the