

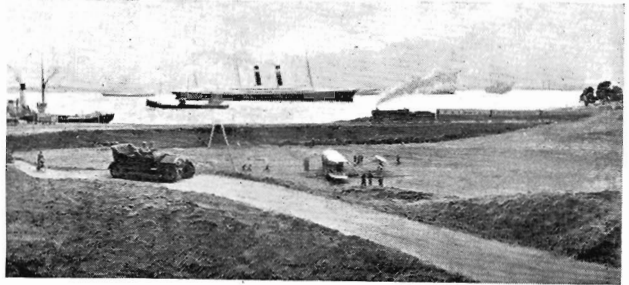
SCHOLARS' CLUB BULLETIN

January, 1939

No. 18

MECHANICAL TRANSPORT HAD ARRIVED

HERE is number ten of our series, TRANSPORT THROUGH THE AGES, which shows how greatly the forms of transport had improved by the year 1908. You can see by the picture that by that time nearly all forms of transport were mechanical. The motor car and the motor bicycle were firmly established, railways were widespread . . . the locomotives were more powerful and the carriages more comfortable . . . and the screw propeller type of steamship had almost entirely replaced the paddle-steamer and sailing ship. More important still, about that time the aeroplane was invented.



Searching Medical and Vision Test For All People Joining Victorian Railways Service

A MAN must be in tip-top physical condition before he can hope to enter the Victorian Railways. This is demanded by the fact that he may have the lives of several hundreds of people in his care, particularly if he is a driver, a guard, or, perhaps, a signalman. Consequently, every potential railway employe is put through a rigorous medical test.

One of the most important of these tests is, of course, the Sight Test. First of all his eyes are tested for strength. This is done at a distance of 20 feet. First each eye separately and then both together. After this comes the colour test, for, of course, no colour-blind man could ever hope to enter a service in which the safety of himself and perhaps many other people would depend on his being able to tell the green and amber signal lights from the red danger light.

The most important test for colour blindness is called the Ishihara test, because it was invented by a clever Japanese doctor of that name. The Ishihara test works in this way:—The doctor has a little book in which the pages are black. On each page there is a square which is filled with large dots of different colours. On the first page all the green dots form the figures 12, and you can see them fairly plainly, but on the other pages it becomes harder and harder to pick out the figures because the colours are so very nearly alike.

Visual Examination

The last page is the trickiest of all, because, although there are actually no figures there at all, if you were colour blind, you would think that you saw some. After the test for colour blindness, there is another rigid test to discover the condition of the man's sight.

After the sight test the man's hearing is tried out. First of all a stopwatch is held about three feet away behind his head, and he is asked to tell when it stops ticking and when it is ticking. He is then tested with a tuning fork, and, after that,

the doctor whispers behind his head at a distance of 18 inches.

All the other medical tests are equally thorough. Though they may seem insignificant to us, they may be very serious for a railway man. Take flat feet, for instance. Flat feet don't seem very serious, but a man with flat feet is unsuitable for a driver or fireman, who has to spend hours on his feet balanced on a rocking, swaying footplate.

Every man associated directly with the running of trains is put through a medical test every five years. If he then develops any sickness or trouble he may be called up every six or 12 months.

DEAR MEMBERS—

I HOPE you all had a Merry Christmas. I did. I was glad to see that many of the boys and girls who were travelling on the trains I was driving at Christmas time were wearing Scholars' Club Badges and judging by their smiling faces and bright eyes, they were out to enjoy their holidays to the utmost.

I'm sure that you will read your Bulletin from beginning to end this month. It is full of the most interesting articles.

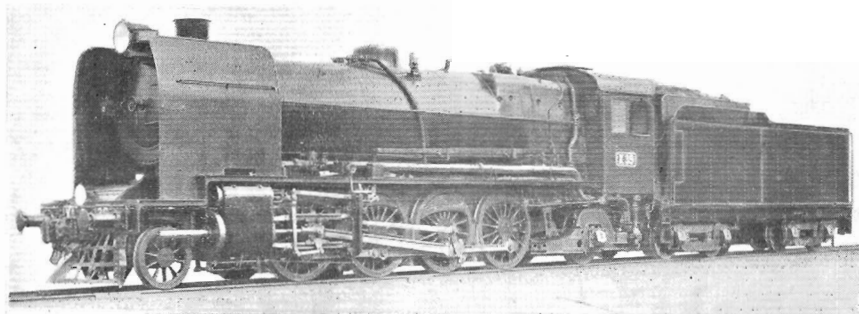
You will notice that there is one story, in particular, which deals with the new, reduced Sunday fares. Ask your mothers and fathers to make enquiries about these wonderful reductions. They are really marvellous bargains in rail travel.

Well, I'm afraid I must say goodbye until next month, but—before I go—I want to wish you all a very Happy and Prosperous New Year.

Your Pen Pal,

Bill Smith

New Powerful "X" Class Locomotives Built At Newport Workshops



THE Victorian Railways have just put on the road four new, re-designed "X" class locomotives. Three more are under construction at the Newport Workshops.

These new locomotives are of exactly the same power and size as the 12 earlier locomotives of the same class, but they have a more efficient boiler. The boiler pressure is 205 pounds to the square inch, which is the highest in Victoria.

Three of the tenders are from "S" class Pacific locomotives. You will probably remember that the "S" class locomotives now have tenders of enlarged capacity to enable them to make their non-stop run to Albury with "Spirit of Progress." Four of the new tenders on the "X" class locomotives are the same in design, but are of all-welded construction and carry 9 tons of coal and 8,600 gallons of water.

The new "X" class locomotives have many other improvements. Among these improvements are a modified funnel, a mechanical lubricator, and smoke deflector plates, which make the smoke rise up before it is blown back by the wind. This ensures that the engine driver gets a clear view ahead instead of having the smoke from the funnel sometimes blown into his eyes. Another improvement used for the first time in Victoria, is the fitting of a new type of Westinghouse air-brake equipment to each of these seven new "X" class locomotives.

RAILWAY CARRIAGES WERE NOT SO COMFORTABLE IN EARLY DAYS

WE have air-conditioned railway carriages and all the other wonderful comforts of rail travel nowadays, yet in the beginning of railways in England wealthy people used to have their own carriages placed on a truck and used to ride on them, because the railway carriages were so uncomfortable!

The first-class carriages in those days were not half so comfortable as our second-class carriages, while the third-class carriages were just open trucks with hard wooden benches as seats.

The first railway carriages closely followed ordinary stage carriages of the period in design, but were fitted with flanged wheels, so that they would run on rails. As they had no springs you can imagine how uncomfortable they were. On the Stockton and Darlington Railway, which was one of the first in the world, the total cost of a carriage was only £80 and the Company had to have a hackney coach license for each carriage on a train.

The early carriages had three pairs of wheels but they were too long to go around curves—so "bogies" trucks were invented and are still in use at the present day. The early carriages were made of wood and were lighted by smelly oil lamps. As time went on, carriages were built with steel underframes and wooden bodies and were lighted by gas lamps.

The next steps were to use steel in the construction of the entire carriage. In recent years there has been used a special light, strong steel, like the famous Cor-ten steel, of which our own "Spirit of Progress" is built.

On the early trains there were, of course no dining cars or sleeping cars, although they were not long in coming. The first sleeping

car, which was on an English train, was built in 1873. Six years later the first dining car was included on an English train.

Most carriages nowadays are built of steel, because steel has a longer life and possesses greater shock-resisting qualities. Also steel cars reduce vibration, and have the further merit of freedom from all danger of fire.

Swimming-Life Saving Club Formed At V.R. Institute

YOU will remember that in the past two or three issues of the Bulletin we told you something about the Victorian Railways Institute. Well, the Institute has added a Swimming and Life Saving Club to its many other sporting bodies.

The club, which was formed late last year has its headquarters at the Richmond Baths, where members are taught swimming and life saving. There is a section for women and a section for men, and, as the water at the baths is kept at an even temperature of 78 degrees throughout the winter months, the club intends to carry out an all-the-year program.

This Life Saving Club is just another way in which railwaymen make themselves proficient in the various forms of first aid. In other issues of the Bulletin we have told you something about the special first aid classes which railwaymen attend, but we forgot to mention that there is a special First Aid Competition held every year in which the various Ambulance Corps of the Australian Railways compete for a silver shield donated by the Railways Commissioners.

VICTORIAN RAILWAYS' PHOTOGRAPHY DIVISION IS WONDERFULLY MODERN

THE Victorian Railways have a Photography Division which is one of the most up-to-date of its kind in Australia. All kinds of photographic work are carried out in it—the reproduction of plans, drawings and graphs for the many engineering departments, photographs for the rapidly expanding tourist requirements and also for the making of lantern slides. One of the biggest jobs now being undertaken in this Division is the printing of nearly 20,000 new scenic photographs to exhibit in railway carriages.

In order to meet the growing demands of the Division a great deal of new, modern equipment has been put into the Photography Division lately and the Division itself has been enlarged. A feature of the new Division is that all the dark rooms, where the photographs are developed, are air-conditioned.

AMONG the new equipment that has been acquired by the Photography Division is a machine for washing and drying blue prints, both operations being carried out simultaneously. In case you don't know it, blue prints are special sorts of plans used by engineers. They are reproduced as white lines on blue paper from the original drawing prepared by the engineers.

The new equipment also includes a combined drying and glazing machine for photographs and a photostat machine for photographing letters and similar documents. This photostat machine

prints direct on to the paper, instead of a negative as an ordinary camera does.

Another interesting—and effective—addition to the plant is a series of automatic enlarging machines which do away with the old-fashioned, slow method of setting photographs for the desired large size.

All these machines mean that the many different tasks, which have to be performed by the Photography Division, will now be carried out much more quickly and efficiently than in the past.

Casualty Trains Ready For Emergency

THE railways believe in being prepared for an emergency and so there are special Casualty Trains consisting of a Casualty Van, travelling car and a guard's van stationed at Melbourne and at all the main country depots. In case of any accident or derailment the nearest Casualty Train is immediately rushed to the spot. Needless to say these trains are always given preference over all other trains on the road.

There are 23 Casualty Vans altogether—12 big ones, which are stationed at Melbourne and the main country depots, and 11 smaller ones, which are kept at the country out-stations.

The big vans are thoroughly equipped with all the appliances needed. The equipment is placed in certain defined positions in each van, so that when the men working at a derailment require any portion of the equipment they know exactly where they can lay their hands on it quickly and easily. Included in the equipment are a number of powerful jacks for lifting derailed engines and vehicles, a number of wire and hempen ropes up to seven inches in circumference, and blocks and tackle.

Each van is equipped, also, with powerful lamps for night work, a great variety of tools, lengths of rail for placing under a derailed engine or vehicle to assist in rerailing it when the permanent way has been damaged during a derailment, and a large assortment of timber packing.

There is also a complete first aid outfit in each Casualty Train—including blankets and stretchers—for use in case of injury to passengers or train crews.

In addition to the Casualty Trains, there are—at Melbourne—two steam cranes, which are

capable of lifting 30 tons. These cranes are used for lifting derailed engines, and heavy trucks or carriages. There are several smaller cranes, also, which are used for lifting light wagons.

BILL SMITH TALKS ABOUT ABANDONED RAILWAYS

BILL Smith received one letter in his mail-box last month which was so interesting that he suggested that we make a special article out of it. The letter was from Member Alan Lillie and was about abandoned railway lines, which he had seen around some suburbs of Melbourne. Here is what Bill told us about them:—

The old railway lines to be seen in East Kew and in Murrumbeena are parts of the abandoned Outer Circle Railway, which was built during 1890 and 1891, and connected Oakleigh with Fairfield Park. Trains ran over the line until 1897, when the section from Ashburton to Oakleigh was closed.

The East Kew to Fairfield Park end was closed soon after, but passenger services were continued from Ashburton to East Kew until 1925, when the East Kew end was closed to passenger traffic and the Ashburton end was electrified. Goods trains still run to East Kew.

The derelict cutting near Ormond is practically all that remains of the privately-owned and constructed Rosstown Junction Railway which was built about 1879 to connect Elsternwick with Oakleigh. This line was never used and was abandoned very soon after it was built because the Government refused to give permission for it to be operated.

HOW RAILWAY PORTER BROUGHT HAPPINESS TO A LITTLE BOY

TOMMY was disappointed, and his gloom did not pass unnoticed by the friendly porter, who always answered his questions about trains and trucks and all the endless interesting things that are connected with railways. The porter began to wonder what was the matter. He went up to Tommy and said, "Hullo, my lad! What's troubling you today?"

"Oh, nothing," said Tommy staring gloomily in front of him.

"Nonsense," said the porter. "I've never seen you looking like this before. Now, tell me what's the matter."

"Well," said Tommy, "it's Ronnie's birthday on Sunday and mother thought it would be nice if we all went up into the hills for the day."

"A very good idea, too," said the porter.

"But," said Tommy, "Dad says that he can't afford it, because there's such a lot of us, and it's such a long way, and Ronnie and Ethel have to pay full fare because they are over 14, and . . ."

"Here, just a minute!" said the porter, "that's not right. Hasn't your father heard about the greatly reduced fares on Sundays?"

"What greatly reduced fares?" said Tommy, whose face began to grow brighter.

"Why," said the porter, "you don't mean to tell me that you don't know anything about the new, special low fares for families and parties on Sundays?"

"No," said Tommy.

"Well, you bring your father down here," said the porter, "and we'll show him that he can afford that trip to the hills next Sunday after all."

65 Miles for 6s.

"Now, listen to me!" said the porter, "these special low Sunday fares enable a family of six people—two grown-ups and four children—to go from, say, Williamstown to Upper Ferntree Gully, that's right into the hills, a distance of 32½ miles each way or 65 miles altogether, for only six shillings! And that includes two children over fourteen years of age and under sixteen years of age."

"Honest?" said Tommy, with very round eyes.

"Honest!" said the porter, "and that's not all. There are lots of other special concessions and trips at very low fares that you can make under this new scheme of lower Sunday fares. For example, as you are under 16 you can travel anywhere to anywhere on the electrified lines on Sundays for sixpence return. Even as far as Frankston or Hurstbridge.

"You bring your daddy down here and we'll tell him all about them. You will have that trip yet, if you can get him to come down here. Do you think you can do it?"

"You watch me!" cried Tommy. He was on his feet and out through the barrier of the station, almost before the words were out of his mouth.

If there was a happier boy in Victoria the following Sunday morning, when Tommy and his family set out on their trip to the hills, he would have been very hard to find.

What Bill Smith Says In Reply To Letters

HERE are some of the many interesting letters from Bill Smith's mail-bag this month. The first is from Member Doug. Simpson, of MacGowan Avenue, Glenhuntly. Doug. had two questions for Bill; the first was this: What is going to happen to the person who invents an ideal way of making all the railway gauges of the different States the same? Bill says that he hasn't any idea what will happen to the person who makes that discovery, but he will have to be a very clever person.

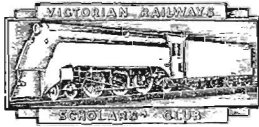
Doug's second question was in connection with the new welded rails. He wanted to know what the gap for expansion would be at the end of each 225 feet length. Bill says that, at a temperature of 66 degrees, a gap of 7/16 inch is allowed between rails of 225 feet length. He points out, though, that expansion varies with the temperature and says that if rails are laid at a temperature of 96 degrees they are practically fully expanded and no gap is allowed.

Bill Nearly Tricked!

Keith Hayter, of Gordon Street, Elsternwick, asked Bill three knotty questions, which kept him busy for a while. He managed to answer them, though, and here they are. The first was in connection with the Newport-Sunshine goods loop-line. Keith wanted to know which direction was "up" and which "down." Bill says that trains from Sunshine to Newport are regarded as "up" trains and trains from Newport to Sunshine are "down" trains.

The second question was also about the loop-line. Keith wanted to know why the signal-box at the Geelong Road crossing on the line was called "Brooklyn A." Bill says that it is known by that name because it is the only one left of two boxes "A" and "B," one at either end of the long loop that used to exist on that line. When the loop was abolished Brooklyn "B" went out of existence, and "A" box kept its original name.

Keith's last question was about the "A" class engines. He wanted to know what numbers were still in service and whether they were fitted with smoke deflectors, automatic staff exchangers, electric headlights or modified front ends. Bill says that class "A1" locomotives are non-superheated versions of the old Stephenson "A2" class and that in 1929 they were numbered from 800-843 with a few gaps. At the end of July this year thirteen of these engines had been taken off the track. Of the thirty-one engines left all have auto-couplers and staff exchangers, and all but numbers 807, 832, 840 and 842 have modified front ends with smoke deflectors.



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No. 19

DIRECTING GOODS TRAINS BY LOUD SPEAKERS

L OUD speakers are to be used in directing the movements of goods trains from a central point in the Melbourne Yard. This, it is claimed, will be the first time that this type of equipment has been used for such a purpose on any railway system in the world. The new system of rail operating must increase the efficient working of the many thousands of trucks moving through one of the busiest railway yards south of the equator, thus providing better service and doing away with costly delays to traffic.

The heart of the new system, which provides for the installation of loud speakers at 10 "key" points of the Yard will be the re-built office now used by the Yard Foreman at Dudley Street, West Melbourne.

An Assistant Yard Superintendent will be on duty day and night in this sound-proof office. Seated at a specially built table, fitted with microphones, loud speakers and other special appliances this officer will be able to make prompt and complete contact with the 10 "key" points.

The Assistant Yard Superintendent controls all the inwards goods traffic from the time it leaves South Kensington, Newmarket and Flinders Street Viaduct Junction until it is dealt with in the Melbourne Yard, and all the outwards traffic from the Melbourne Yard until it reaches these points. Matters often arise which demand the approval of the Assistant Yard Superintendent. While he is in one part of the Yard, his decision is often wanted in other parts.

It also often happens that when the various supervising officers and shunters are wanted by the Assistant Yard Superintendent they cannot easily be found in the network of tracks. Under the new system, the Assistant Yard Superintendent with the aid of the loud speakers will be able to deal with all these matters without leaving his office.

DEAR MEMBERS—

AS you will see, this month's issue of the Bulletin is a real bumper. It is simply packed with interesting articles.

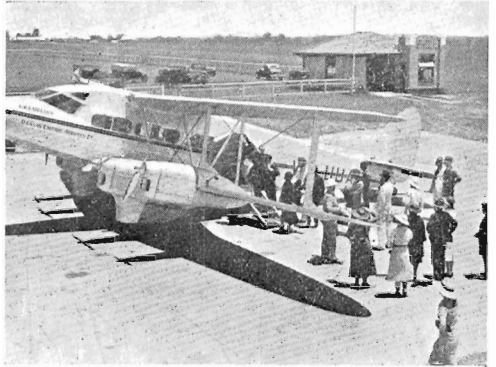
They are all so interesting that I really cannot recommend any particular one without mentioning all the others as well. My best advice to you is to hurry through this letter and then start reading on the front page of the Bulletin and go right through it to the back page.

This is an ideal way to start the New Year isn't it?

Your Pen Pal,

Bill Smith

Transport Through The Ages



THIS is number eleven in our series of pictures showing Transport Through The Ages. It shows the last form of transport to develop . . . transport by air. In the picture you can see passengers disembarking from an Empire Airways air-liner at Archerfield, Brisbane, after completing the 4,361 miles journey from Singapore in three and a half days. Air transport is very swift, but—unlike the railways—air-liners cannot carry either people or goods in large quantities, though each year larger and larger planes with greater passenger capacity, at any rate, are appearing on the principal routes of the world.

BIGGEST V. R. LOCOS. BEING BUILT

TO do away with the costly double-heading on the heavy passenger trains on the Western main line between Melbourne and Ararat, three new express locomotives of the 4-8-4 type are being constructed at the Newport Workshops. It is expected that the first will be completed this year. These new streamlined locomotives will be known as class "H" and will be the largest, heaviest and most powerful in the Victorian Railways service.

The total weight of each in working order with tender will be approximately 261 tons, the greatest weight of any locomotive in service in Australia at the present time.

The overall length of engine and tender will be approximately 92 feet 6 inches. The boiler pressure of 220 lb. will be higher than that of any existing locomotive in Australia.

A mechanical stoker will be fitted. Roller bearings will be used for the engine bogie and trailing truck axles and also for tender bogie axles. The locomotive trailing truck will be of a novel design, fabricated from mild steel plate by electric arc-welding.

The tenders will be carried on 6-wheel bogies and will have a capacity of 14,000 gallons of water and 8 tons of coal.

Suburban Train Control System Is Improving Services For Public

YOU will remember that some months back we printed in *The Bulletin* a photograph of the control panel of the new suburban train control system. This system has been in operation for some time and already it has shown that it is going to be a very important factor in improving the standard of train running in the suburban area. The equipment is the most modern of its kind in the world and has solved several knotty problems most effectively. In several instances, abnormal traffic situations have been quickly controlled and the effect of a local dislocation of other services has been reduced to a minimum.

IN operation, the suburban train control system differs greatly from the methods employed in country train control. Instead of reporting over the selector telephone the movements of all suburban trains, stations advise the train despatcher whenever a train is delayed for one minute or more. All the regular suburban trains are shown on the train despatcher's master graphs, and any trains reported running late are marked in pencil on the graph.

Thus, to meet the temporary departures from normal running, the train despatchers have a complete picture, and are enabled not only to make any necessary adjustments of train services, but to inform the platform staff in advance as to the intended changing of trains. This will reduce terminal delays in such cases, and will be a great convenience to passengers.

From early this year, it is expected that suburban train control will also supervise the whole of the country goods and passenger trains while running between Melbourne and the various outer suburban stations, such as Dandenong, Broadmeadows, etc.

209,000 Passengers !

DO you know that "Spirit of Progress" was one year old on November 23 last? In the twelve months that wonderful train, which is the pride of the Victorian Railways comparing with the finest trains in the world, had carried 209,000 passengers—an increase of 28,000 on the number of passengers carried by the "Sydney Limited" in 1937.

This big increase was made in spite of the fact that during the first year "Spirit of Progress" was running the infantile paralysis outbreak was at its height.

The unvarying, excellent service which this famous Corten steel, streamlined, air-conditioned train rendered during that year has shown the skill, reliability and enterprise of Australian craftsmen, and has given further emphasis to the fact that Victoria possesses one of the most efficient and progressive railway systems in the world.

LONG LETTER ON SIGNALS FROM BILL SMITH

BILL Smith has passed on to us from his mail-bag a very interesting letter from a member John Sinnat, which required an equally interesting answer. We give the letter and answer—which really make a most interesting article on signalling and signal-boxes in and around the metropolitan area. The letter from John F. Sinnat, of the Caulfield Grammar School, reads as follows:—

DEAR BILL.—Every time I pass the South Yarra Junction in the train, I wonder whether manual or power interlocking is used in the signal-box. The points are worked by rods from the box, but inside I can never see any levers, and also the illuminated track diagram is on the opposite wall. Would you please tell me and also, if possible, give me some further information about the box (number of levers in frame, etc.).

I suppose before 3-position signals were introduced, there was a signal-box at Richmond. Could you give me any details of the box? And, if possible, a diagram of the lines and signals there? I suppose in the past there was only one pair of lines between South Yarra and Caulfield? Was this so? And, if true, was there any junction at South Yarra? Also, if only one pair of lines, were there signal-boxes at the intermediate stations, also level crossings?

I believe that 3-position signals are to be installed on the sections Carnegie-Oakleigh, Glenhuntly-Moorabbin. Do you know when this is to be brought about, also, whether the signals will be semaphore or colour-light?

On lines, where automatic signals are used, certain code letters are used for the signals on different lines ("B" for Brighton, "L" for Lilydale, "E" for Essendon). Do you know what "S" on the Clifton Hill line means, and "H" on the country lines, Flinders Street?

Bill wrote in reply as follows:—

DEAR JOHN.—The interlocking at South Yarra is known as the electro-mechanical type, combining manually operated points with power operated signals. The points are worked from ordinary type levers and the signals from a power frame of the miniature lever type. This box was opened on 3/10/1915 and has 32 levers in all—including 10 spares and 10 miniature signal levers.

Before the provision of 3-position automatic signals between Flinders Street and Caulfield, there was a manually operated signal-box located at South Yarra to work the junction from the Sandringham lines to the Gippsland lines, which at that time was a double track only. This line was re-graded and duplicated from South Yarra to Caulfield in 1915, thus eliminating level crossings at all the principal streets. Prior to the re-grading, etc., double line telegraph block working was in force from Jolimont Junction—Richmond—South Yarra—Hawksburn—Toorak—Armada—Malvern—Caulfield "A." There were signal-boxes at all these block stations, which were closed following the opening of the quadruple line from South Yarra and the installation of 3-position signalling on 26/9/1915. There used to be two signal-boxes at Richmond. "A" box was located at the "up" end of the "up" Sandringham line platform and used to work block with Jolimont Junction, Richmond "B" (at Green Street level crossing on the Burnley line, still in use), and South Yarra. Richmond "A" was abolished, presumably in 1915, following the installation of 3-position signalling.

No signal diagrams are in existence of the lay-out at Richmond, but there were, of course, at that time six platforms, as at present, with several trailing cross-over lines from Sandringham to South Yarra and South Yarra to Box Hill lines, with high signal bridges carrying starting and home signals at the "up" and "down" ends, all of which were worked from "A" box.

Three-position automatic signals of the colour-light, searchlight type are to be provided for the sections Carnegie-Oakleigh and Glenhuntly-Moorabbin, but the date of their installation is unknown at the present time.

There is no significance in the use of the code letter "S" for automatic signal identification on the Princes Bridge-Clifton Hill section, other than the fact that that letter was not in use elsewhere at the time of installation of the signals. The country passenger lines at Flinders Street are probably lettered "H" for the reason that this line will be extended through Richmond to Hawthorn and beyond at some future date. The letter "H" in all probability stands for "Healesville."

Stationmaster At Flinders Street

SOME IDEA OF HIS WORK

HOW would you like to be the stationmaster at Flinders Street? Have you ever stopped to think just how big a job the stationmaster at that famous station has? More passengers pass through the barriers at Flinders Street than at any other single station in the world. In addition, many thousands of passengers pass through the station on through journeys every day and do not pass through the barriers.

Let us try to imagine just what sort of a job the stationmaster at Flinders Street has to perform. To begin with, he comes on duty long before you and I are awake—at a rather early hour of the morning. His first duty is to look over the special requirements of the particular day. Details of extra and altered traffic arrangements and staff requirements for the day, compiled by the late shift stationmaster and staff the previous night, are closely checked and care exercised to see that all aspects have been adequately covered to ensure the smooth conduct of the traffic.

The stationmaster has a staff of 500 men under him, and his next job is to check up with his staff clerks and head porters to ascertain whether all his men are at their respective posts and later, when opportunity offers, he will make a personal tour of inspection of staff and premises to see that everything is in order and the business is being conducted in the proper manner.

The Stationmaster represents the Railways Commissioners and he sees that the travelling public get efficient and courteous service. It is his job to see that the staff operating the various platforms despatch the trains to time, having due regard to the safety of joining passengers.

Adjusting Traffic

Should the traffic be abnormally delayed, say, for instance, through a fault developing on a motor of an approaching train, or a defective signal he, in conjunction with the suburban train despatcher who is located at Spencer Street and is in direct communication by telephone with every suburban station and operating point, the stationmaster must act quickly to minimise delay and enable the time-table being resumed as soon as possible.

It may be necessary for him to obtain a fresh train from the Jolimont Yard and despatch it from Flinders Street on its outward journey at the time the late running train should have left, or, in the event of delays affecting a number of trains "transpose" or switch arriving trains off their scheduled runs thus, as far as is practicable, maintaining the time-table and avoiding inconvenience and delay to passengers.

There are two stationmasters at Flinders Street covering a period of duty from early morning until midnight. But even with two of them a stationmaster's life at Flinders Street is not an easy one by any means. Imagine how you would feel if you had to keep watch and ward over 500 men and nearly two miles of platforms, to say nothing of nearly 300,000 passengers and 2,400 trains every day.

DEATH OF RICHARD PAINE

USUALLY Bill Smith opens his mail and finds some cheery note from a member, but . . . Just before the Christmas holidays, he received a letter conveying the sad news that Richard Paine, of Frankston, had been drowned on December 6. Had he lived he would have been 13 years of age on December 23. His Mother wrote to Bill telling him that young Richard had ridden his bicycle over the pier into the water at Frankston.

Mrs. Paine said that Richard had been an enthusiastic member of the Club. It was his ambition to become a mining engineer. Richard was born at Bussellton in Western Australia, and from early age had been interested in engineering.

Just prior to his death, he had obtained his Merit Certificate, and was to have started at the Frankston High School after the Christmas vacation. Bill wrote to Mrs. Paine telling of his great sorrow at the tragic death of Richard and expressing heartfelt sympathy in her bereavement. And he knows that all members of the Club will mourn the loss of a fellow member who was a real asset to the Club . . .

STAFF EXCHANGING ON RAILWAY LINES

MOST members of the Scholars' Club know that as a safety measure on many single railway lines the passage of trains is controlled by the Electric Staff system of signalling, the object of which is to prevent more than one train being on the single line section between any two staff stations at the same time. This is accomplished by every train carrying a staff.

On lines where the exchange of staffs between the signalman and the driver is done by hand it necessitates the speed of the train being reduced to 15 miles per hour in the case of the large metal staff, or 20 miles per hour if the miniature staff with cane hoop attached, is used.

In order to permit of a faster speed being attained at the staff stations, the system of automatic exchange was introduced, which on the North-Eastern line, for instance, between Mangalore and Wodonga, permits of a maximum speed of 60 miles per hour being attained, when an exchange is made. In the case of an automatic staff exchange, the staff used is of the miniature type and is attached to a special carrier consisting of a leather pouch with a steel ring attached.

With the automatic exchange system, each staff station is equipped with what is known as the ground apparatus. In its normal position, this ground apparatus is in a box on the ground, with the lid closed.

When an exchange is to be made, the staff is securely fixed in what is known as the "staff pouch" and the signalman then takes the staff and staff pouch to the ground apparatus, raises the apparatus to the vertical position and attaches the pouch with the staff to the exchange arm.

By day, as an indication to the driver of the train that the staff is in position on the ground apparatus, a white enamelled disc is attached—by night a white light is displayed. The signalman is then in readiness for an automatic exchange and all signals (distant, home and departure) are placed for the train to pass through the station effecting an automatic exchange *en route*.

Each engine operating the automatic exchange is also equipped with an exchange apparatus, and, before it is lowered into position by the fireman, he attaches the incoming staff to it in a similar manner to that in which the signalman attaches the outgoing staff to the ground apparatus.

SPECIAL CARE FOR ENTIRE SAFETY OF PERMANENT WAY

THIS month we want to tell you a little more about the Permanent Way especially as regards the manner in which it is inspected and kept in proper order. To begin with, the Permanent Way is, of course, the railway track which consists of road-bed, ballast, sleepers, rails and fastenings.

Let us take them one at a time—first of all the rails. Rails are set to a given gauge and fixed in the direction in which the track is to go. Now, what about the sleepers? They keep the rails to the proper gauge and they transfer the weight on the rails to the ballast. The ballast is to keep the track in a good line and it also transfers the weight from the sleepers to the road-bed, which is the natural or prepared surface upon which the entire track is laid.

You see, a weight is carried by a very small area of rail, but the pressure of that small area of rail is spread throughout half the length of a sleeper and through the sleeper into the ballast and from the ballast to the road-bed . . . the area being gradually increased each time, until finally, the earth surface has enough bearing area to carry the whole weight, without giving way under the strain.

In Heavy Traffic

The more duty that has to be performed by the track, the heavier should be the rail, closer the spacing of sleepers or the greater the depth of ballast. Efficient drainage is most essential also.

This is assisted by the ballast—pipes and spalls being provided where necessary.

There are approximately 5,000 miles of track in Victoria and the maintenance of it is made the job of sectional staffs. The officer in charge of a district is the District Engineer. There are five of these officers in Victoria. Under each District Engineer are a number of Road Foremen, each of whom controls about 200 miles of track.

The Road Foreman's section is divided into a number of gangs, each one being in charge of a Ganger. The track looked after by a gang is called a length which may vary from 6 miles—under intense traffic—to 24 miles—under very light traffic, and generally speaking, lengths of 10 miles and over are motorized—the gangs using "Casey Jones" motors for travelling and conveying materials.

The quantities of material needed for annual maintenance of the permanent way are fixed by the Officer in Charge and the gangs carry out renewals and general maintenance.

Close Inspection

The tracks are all closely inspected by the gangs every day a train is run, very often by Road Foremen and other officers and, in addition, are tested periodically by a marvellous machine, concerning which we had an article in an earlier issue of the Bulletin. This machine is called the Hallade Track Recorder. It is set up in a special car and, as the car travels along the track, the Hallade Track Recorder registers the amount of rolling, lurching and vertical movements which may be due to faults in the track. In this way, the Railways Engineers are able to make sure that the Permanent Way is being kept in proper order.

Reduced Sunday Fares Pleased Him

GEORGIE was a very disappointed little boy. It was his birthday next day and he had been looking forward to going to the beach. He was feeling very gloomy as he walked slowly down the street. Consequently he paid no heed to a whistle, which rang out from some little distance behind him. Soon his pal Joey Conway ran up beside Georgie and fell into step beside him.

"Lo, George!" said Joey cheerfully!

"Lo, Joey!" said Georgie mournfully.

"What's up with you?" said Joey. "You are in a cheerful mood."

Georgie needed no further pressure to tell the whole story . . . how his father was going to take them to the seaside and then how it seemed that the fares would be too dear and they couldn't go.

Cheap For Families

"But they can't be too dear," said Joey. "Why, we all went to Upper Ferntree Gully last Sunday and it only cost Dad 6/- for the lot of us."

"What?" said Georgie. "For the six of you?"

"Yes," said Joey. "There were Dad and Mum, and Lorna, Allan, Lennie and me. Six of us. And it's 65 miles there and back. It's all because of the bonzer new bargain fares on Sunday! Didn't you even know children can travel anywhere the electric trains run to on Sundays for 6d. return?"

"Honest?" asked Georgie. His eyes were beginning to light up now.

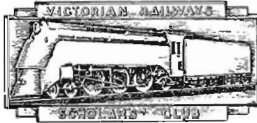
Georgie Smiles!

"Honest!" said Joey. "We've got a little sort of folder thing at home that tells you all about it. Come on! We'll go and get it, and then you can show it to your Dad!"

"All right!" said Georgie. And off the two of them went to get the little folder about the new bargain fares, which the railways are offering on Sundays—not only to family parties but to organized parties of 20 or more.

That was the Sunday before last, and if you had seen Georgie's face as the family were setting out on their trip to the seaside last week, you would have had some idea of what a great boon those bargain fares on Sundays really are.

Enquire about them at your local railway station!



SCHOLARS' CLUB BULLETIN

March, 1939

No. 20

DEAR MEMBERS—

DO you know the reason why such an enormous public utility as the Victorian Railways works so smoothly and safely? The answer may be put in one word, "teamwork." That is the secret of success in all big undertakings. The Victorian Railways organization is one big team in which each man does his bit to make the whole thing a success.

Now you all know that there is still a serious shortage of water here in Victoria. So, despite the recent rain which has filled tanks and dams throughout the State, it is still necessary for everyone of us to prevent the wasting of water. This is where we really need teamwork, if the plan is to be a success. Every single one of us must do his, or her, part to save water.

It's quite easy really; all you have to do is not to waste water. Don't leave taps running . . . and when you turn them off, see that they are properly turned off. Thousands of gallons of water are lost every year through dripping taps. So, come on now! Let's all see how much water we can save!

By the way, Vera Lane, 44 Darebin Street, Heidelberg, N22, wants a pen friend aged about 14.

Your Team Mate,

Bill Smith

These Railwaymen Have Good Memories!

YOU must have heard people, at one time or another, say, "I'll meet you under the clocks" . . . meaning the clocks at the Swanston Street entrance to the Flinders Street station. These clocks show the times at which trains leave Flinders Street station on their runs to the various terminal stations on the metropolitan electric train network.

There are also clocks at the Degraeves Street and Elizabeth Street entrances to the station and they indicate the Flinders Street station train departures also.

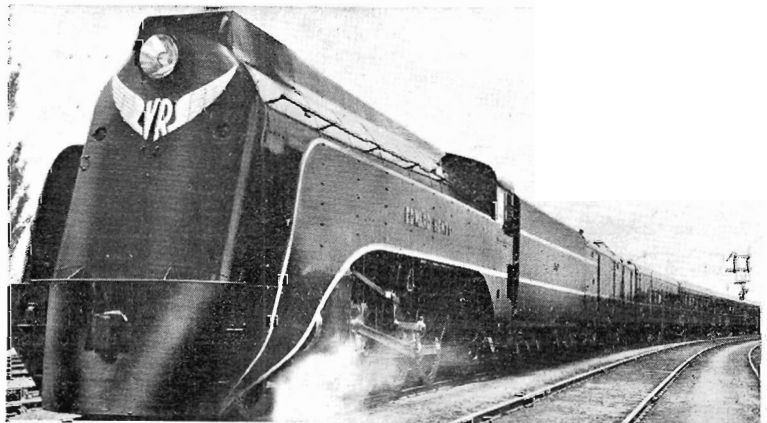
From early morning until last thing at night men are stationed at each of the three groups of indicator clocks, and they have to exercise vigilance and care to ensure that correct train information is displayed for the guidance of intending passengers.

There are 13 clocks in each of the three sets, and at each of the sets there are reference boards for the information of attendants showing the departure times of trains in line order and also particulars of express running, branch line and bus connections, etc.

The men engaged on the clocks memorise the time-tables to a remarkable extent, and it is seldom that they have to consult their reference sheets for departure times, running and connection particulars for any of the 1,200 trains that leave Flinders Street station every day. How would you like to have their memories around examination times?

HERE is the last of our series of pictures showing "Transport Through the Ages." Yes, it is "Spirit of Progress" the very last word in modern rail travel . . . fast, safe, and comfortable. What tremendous strides have been made in the means of transport from the time shown in the first of these pictures, when men had to walk carrying their goods on their backs, up to the present day, when this huge, streamlined train speeds across Victoria at 70 miles per hour hauling hundreds of tons in its wake.

When you think of all the discomfort that travellers had to put up with in the old days . . . bad roads . . . no springs . . . no ventilation . . . you must feel how lucky we are to be able to sit in the air-conditioned, sound-proofed compartments of "SPIRIT OF PROGRESS," cool in summer and warm in winter, and be carried safely to our destination at the rate of a mile a minute. But remember, the title of this wonderful train is "Spirit of Progress." . . Progress means advancing and improving . . . and that is what your railways are doing all the time.



Oldest Working Loco. In Victoria

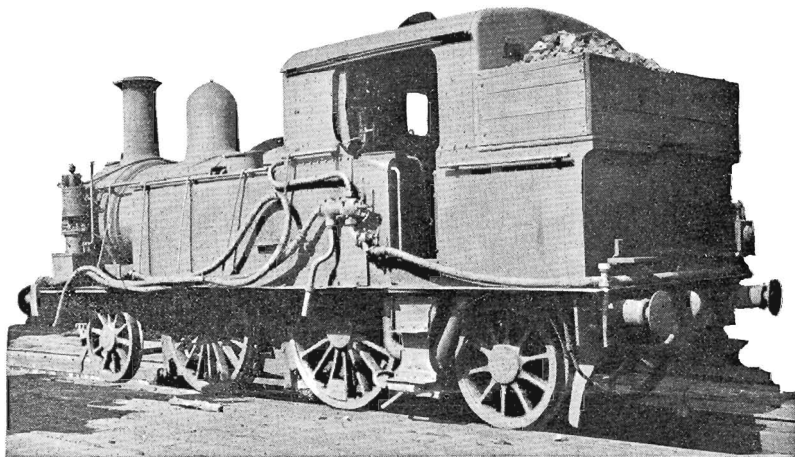
THERE has been quite an argument among railwaymen recently as to which was the oldest working locomotive in the Department. Most of them considered that it was an "R" class locomotive—Number 317—which was built by the Phoenix Foundry Company at Ballarat in 1883—that is 56 years ago. But, actually, the oldest working locomotive is "F" 178, which was built by the same company in 1880.

"F" 178 was built originally as a 2-4-0 tender engine, but later on, together with some other locomotives in the same class, was rebuilt as a 2-4-2 tank engine for suburban working. Although nearly 60 years old,

"F" 178 is still hard

at work at the North Melbourne Locomotive Depot, where it is used as a mobile boiler washing machine.

Another engine of the "F" class—Number 176—which was built in the same year as "F" 178, was sold to a leading harvesting machine company in 1920 and is still at work.



HOW 1,000 BOY SCOUTS WERE FED IN RECORD TIME

THE Victorian Railways Refreshment Rooms are used to providing meals for large numbers of people in a hurry, but recently they were asked to feed nearly 1,000 hungry boys at one station within a space of a little more than two hours. Yet, on January 11, that job was carried out with the usual Railway efficiency by the staff at the Seymour Refreshment rooms.

On that day the staff were told to expect three special train loads of hungry Boy Scouts, who were returning to Melbourne from the Sydney Jamboree. Breakfast was to be provided for these boys—each of whom had a real "man-sized" appetite—during the scheduled stopping times at Seymour. The first train was to stop there for 45 minutes and the other two for 60 minutes.

But on January 11, Traffic on the Albury-Melbourne line was extra heavy and, as a result, the three trains arrived at Seymour behind time. Consequently meals had to be speeded up and the boys were fed with sausages, potatoes, bread and butter, tea or coffee, as rapidly as possible.

Here is the record of the meals: the first train carried 325 Scouts who were supplied with breakfast in 17 minutes. Sixteen minutes after they left the second train arrived with 334 Scouts. These were fed in 46 minutes. The third train arrived 32 minutes later. It carried 313 Scouts who were fed within 34 minutes.

In spite of the speeding up, however, the staff of the Seymour Refreshment Rooms rose nobly to the occasion, and the meals were served, dishes, etc., washed, tables re-arranged, without hitch or fuss.

Although they had to have breakfast in a shorter time, the Boy Scouts managed to dispose of more than 450 lb. of sausages!

Letters to Bill Smith

BILL Smith has passed on to us two letters from his mailbag this month, which he is sure will interest other members. The first of these is from Douglas Lamb, who wanted to know the highest speed at which the "Spirit of Progress" can travel. The highest speed permitted is 70 miles per hour, and even this speed is only allowed over certain portions of the run. "Spirit of Progress" covers the 190½ miles between Melbourne and Albury at an average speed of about 50 miles per hour.

The second letter is from Reg. Dyson, who wanted to know the meaning of the word "catch," which he saw painted on a signboard at the side of a goods line. Well, where any two lines come together, such as where the freight lines at North Melbourne cross over passenger lines on the level . . . and where Reg. saw the signboard . . . safety devices known as Catch Points are installed far enough away from the main line to prevent vehicles standing (or moving) on the other line from fouling passing trains.

Catch Points, which are controlled by the same lever that works the main line points (in the case where siding lines run into the main line) work in such a way that, when they are "opened" they will cause any vehicle accidentally moved towards the main line to be derailed. The presence of these Catch Points is indicated to trainmen by the board bearing the word "catch" which is set up beside the track.

Catch Points are also sometimes placed at the top and half-way down steep grades on main lines to prevent any vehicles that may break away from a climbing train from running back down the slope into the face of oncoming traffic. These Catch Points are worked by a spring in such a way that they always lie open for vehicles travelling in the wrong direction but do not interfere with traffic travelling in the right direction.

STRIKING RAILWAY EXHIBIT LEAVES FOR NEW YORK WORLD'S FAIR

SINCE it started its daily run between Melbourne and Albury in November, 1937—"Spirit of Progress" has become world famous. Hundreds of travellers from overseas, who have travelled on our wonderful Cor-ten steel, air-conditioned train, have praised it very highly, and now a model of the parlor-observation car of the train is to be displayed at the New York World's Fair, which will be opened on April 30 this year. The model was built in the Newport Workshops.

It is only 10 feet 2 inches in length but—with the exception of air-conditioning equipment—it contains every feature that is to be found in the actual car itself, including the upholstered chairs, tables and bookshelves, miniature telephone, writing paper, envelopes and venetian blinds. It will be displayed in such a way that visitors to the World's Fair will be able to see from one side the outside of the car and part of the semi-circular rear.

On the other side, about two-thirds of the length of the roof and wall will be cut away, so that the visitors will be able to see what the car looks like inside. The sections removed will be replaced by glass, so that the streamlined appearance of the car will not be spoiled.

Through this glass visitors will be able to see the layers of sound-deadening materials, the roof sticks, ceiling, panelling and the air-ducts along which the "conditioned" air flows to and from the various parts of each carriage.

Velvet of the proper shade was used for the carpet, and the tinting of the upholstery on the chairs and settees is the same. The double glass windows are repeated and there are even little ivory and chromium smokers' stands—not to mention tiny coat and hat hooks, mirrors and other fittings. The outside of the car is, of course, painted royal blue with those two broad bands of gold running from end to end.

Determined that it should look exactly like the real "Spirit of Progress," the engineers made the interior fittings exactly the same—right down to the smallest detail. Specially selected fine grain walnut and cedar wood veneers were used—exactly as in the panelling of the parlor car of "Spirit of Progress."

When the model comes back from the New York World's Fair, the Railways Commissioners will probably arrange for it to be exhibited at different places throughout Victoria.

Reduced Sunday Fares Mean More Traffic

I SUPPOSE that many of you have taken advantage of the splendid new "bargain" fares for Sunday travel, which came into operation on December 4 last. Traffic has increased quite considerably since then, because people everywhere are realising that these new, reduced fares for Sunday day-returns on the electrified system allow you to take a trip to the country or seaside at a very low cost.

For the nine Sundays since December 4, a total of 24,041 extra return journeys were made by passengers, who realised the value of the new fares.

Did you know that under the new Sunday fare system all boys and girls under 16 years can travel from anywhere to anywhere on electrified lines for only 9d. first-class return or 6d. second-class return?

For adults, day-return tickets are on issue at little more than single fare.

Family parties, too, get wonderful reductions for Sunday travel. For example, a family excursion ticket—which covers the travel of two grown-ups and four children under 16—from Williamstown to Upper Ferntree Gully, a distance of 60 miles, costs only 6/-.

Ask your Daddy to enquire at your nearest railway station for particulars of other attractive Sunday excursions to the hills, the seaside and the Zoo.

NEW COLOURS CHOSEN FOR RAILWAY TICKETS

HAVE you ever thought why railway tickets are printed in different colours? The reason for the different colours is that the ticket collectors and checkers can tell at a glance whether the ticket is a first or second-class.

A special Ticket Committee in the Victorian Railways has recommended a new and important change in the colours of country tickets. Under the new plan, which will be introduced slowly, gradually replacing tickets still in stock only four colours will be used thus greatly facilitating the work of ticket collectors and checkers.

Yellow and brown will be used for first-class tickets and blue and grey for second-class tickets. separate colours will be used for tickets in the "up" and "down" directions as follows:—

	"DOWN"	"UP"
1st class single	... Yellow	Brown
2nd class single	... Blue	Grey
1st class return	... Yellow	Brown
2nd class return	... Blue	Grey

Makes Collection Easier

In short, this new colour plan means that tickets coloured yellow and blue will be collected from passengers travelling in the "down" direction, and brown and grey from travellers in the "up" direction—with the exception of return tickets, which will bear the "down" colour for the forward journey and the "up" colour for the return journey, with a white circle left blank in the colour.

RAILWAY PROPERTY DAMAGED IN RECENT SERIOUS BUSHFIRES

THE terrible bushfires which swept across Victoria in January did an immense amount of damage to railway property, as well as to forests, private farms and buildings everywhere. To begin, the fires destroyed "Hotham Heights" at Mt. Hotham and "The Bungalow" at Mt. Feathertop—the two guest-houses, which not only accommodated skiers in the winter but attracted visitors at other seasons of the year. Work has already been commenced on the rebuilding of "Hotham Heights" and it is expected to be completed in time for the forthcoming winter sports season.

AT Noojee, too, the railways suffered heavy losses. All but one of the railway buildings were destroyed and the 295 feet long timber bridge between Noojee and Nayook was left in ruins with the remains of the track dipping precariously over the 69-foot deep gully, which it formerly spanned.

A road bridge over the railway near Erica was also burnt out, and minor damage was done to two smaller bridges on the Walhalla line.

Bridges Destroyed

Bridges seem to have suffered the most, as a wooden bridge 180 feet long and 36 feet high on the Heywood-Mt. Gambier line was destroyed. A similar fate was suffered by three bridges on the Colac-Beech Forest narrow gauge line, while three small bridges on the Hamilton Portland line were severely damaged by the fires.

Wooden culverts, telegraph lines, cattle pits, fencing, and even sections of the track were destroyed or damaged in the various bushfire areas.

Railwaymen Help

All through those trying days, when fires were ranging in almost every part of the State, station staffs, works gangs and other railwaymen were playing their part in the fight to try and keep the fires under control. One of the big jobs was on January 13, when the fires were threatening the famous Sir Colin MacKenzie sanctuary for Native Fauna at Healesville.

Special Trains Needed

A party of 34 volunteer railwaymen was rushed to the spot by railway road motor bus and truck and did excellent work in fighting the fire and in burning breaks. After attacking the fires all day a call was made for men to stay at Healesville overnight and 14 members of the party—the full number required—volunteered. Food for these men was provided by the Railways Refreshment Services Branch and was sent up by car from Melbourne.

The Department had to run a number of special trains to carry volunteers to the scenes of the fires and to bring back refugees to the safety of special camps. One of these special trains was sent to the rescue of Wirth's Circus, which was marooned in Mt. Gambier by the burning of a railway bridge. The circus with its large collection of animals had to journey by road past the damaged bridge to meet the relief train, which brought it on to Melbourne.

Versatile Railwayman

FOR two reasons alone it was fortunate that Mr. C. R. Whitelaw was the Stationmaster at Mornington recently when fire suddenly swept down with such terrible results in a large portion of Dromana. As the well-known owner, operator and announcer of experimental radio station VK3BH, he promptly stopped his regular musical program to broadcast two urgent appeals for volunteers to hasten to Dromana. From these two announcements, it is estimated that nearly 200 people quickly responded. Having broadcast his appeals, Mr. Whitelaw lost no further time: he closed his station—and donned the uniform he proudly wears as a member of the Country Fire Brigade movement. . . . Reporting to the local fire station, he was told to remain in charge of six men with a hose carriage and pump to stem any outbreak in the vicinity of Mornington. Mr. Whitelaw's hobbies are firefighting and radio broadcasting. He joined the Prahran fire brigade in 1907, and wherever he has been located as a railwayman since then he has been actively associated with the local fire brigade. He is one of the best known personalities in Australian amateur radio circles. Since 1918, he has been "on the air" entertaining at many country centres with equipment mostly built by himself. He is a foundation member of the Wireless Institute of Australia. . . .

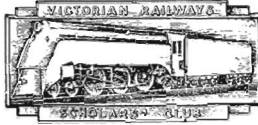
LITTLE THINGS THAT COUNT

OF the many letters, expressing thanks for actions by members of the railway service, received by the Victorian Railways, the following one shows you how even the slightest desire to help is appreciated:—

IT is my pleasure to place on record the very courteous and efficient service offered to me by the young lady in charge of the Fruit and Newspaper Stall on the Geelong Railway Station. I wished to purchase a stamp which was not available at the moment at the Book Stall, and the attendant very kindly attempted to purchase one at the Booking Office. As she was not successful, I returned to my seat in the train and was surprised and pleased to find that the attendant had been successful in another direction and brought the stamp to me in the compartment. This was such a striking example of 'going the second mile' that I thought I would like to advise you of the high standard of courtesy adopted by your representative at Geelong."

—Mr. Alec. S. Eggleston, Registered Architect, of Collins Street, Melbourne, writing to the Chairman of the Railways Commissioners.

SCHOLARS' CLUB BULLETIN

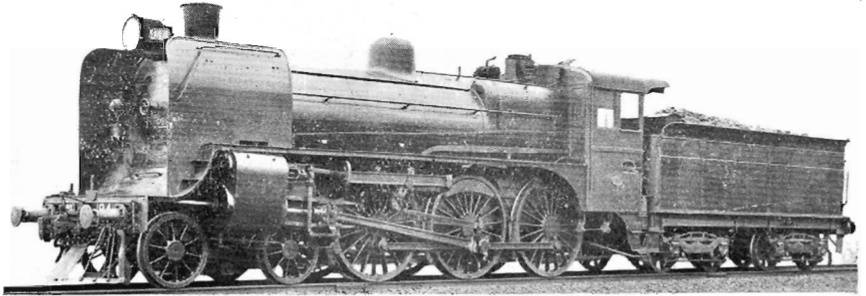


April, 1939

No. 21

INTERESTING FEATURE BEGINS IN THIS ISSUE

HERE is the first of a new series of pictures showing the different types of locomotives and rolling stock in use on the Victorian Railways. The engine shown is of the "A2" class. The first of these engines was built in 1907, and 124 more, without superheaters, were built up till 1913. In 1915, the design was improved and 60 more engines with superheaters were built up till 1922. The original non-superheated engines have nearly all been converted to superheater type, but those still remaining are known as the "A1" class. Including 31 engines of the "A1" type, the Railways possess 185 "A" class engines. They are excellent utility locomotives of the 4-6-0 type and are used principally on main line passenger trains.



DEAR MEMBERS—

AS usual we have a lot of good things in the Bulletin this month. I should like to draw your attention particularly to the stories about air-conditioning and the Sunday Bargain Fares.

* * *

With winter approaching rapidly, train travellers are going to appreciate air-conditioning even as much as they do during the summer months. Think of it!

A cold wind and driving rain outside the train, yet inside, the traveller will be sitting in a comfortable and pleasant atmosphere. That's what air-conditioning means: greater comfort.

By the way, now that it may be getting a little too cold to visit the beach, you will find that the Zoo is an ideal place to visit—and you can do it so very cheaply on our Sunday Fares.

* * *

Don't forget that the educational tours are well under way again. So, if you are able to make these tours you are going to learn more about railways than you'll ever be able to gather from reading.

There is nothing like actually seeing things. It helps you to understand them more. Perhaps I shall see some of you while you are making the tours.

I hope so.

Your Pen Pal,

Bill Smith

Rail Ambulance Car For Defence Department

THE Victorian Railways Department recently provided a rail ambulance car for the Military Authorities. This car, which was converted at the Newport Workshops, was originally a "BPL" type excursion car. It has got accommodation for 41 casualties.

The beds are arranged in three tiers on each side of the centre aisle. The middle tier of bunks is hinged so that when they are lowered they provide reclining seat backs for the lower tier thus assuring comfortable seats for sitting-up patients.

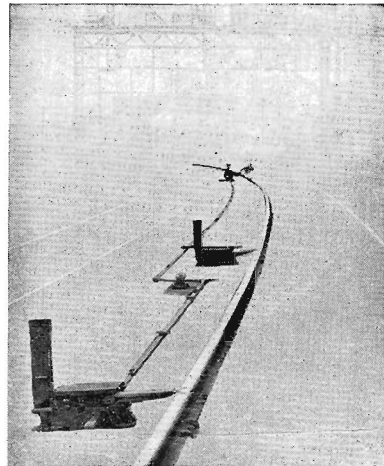
The "BPL" type of car was chosen for the ambulance car because it can be converted rapidly in case of an emergency and because it has a greater carrying capacity than other passenger cars. Another advantage lies in the fact that the measurements and weight of the car make it possible to run it on any broad gauge railway line.

The body of the car was altered considerably in the course of the conversion. All the original seats and partitions were removed and the side doors near the ends were sealed. It is fitted with a Pintsch gas lighting system. In the event of gas being unobtainable, provision is made for emergency lighting with kerosene lamps.

This car, which will be inspected at Adelaide and Albury by military and railway officials, will be used as a model for similar cars to be built in other States.

A wash basin and a gas heater have also been installed. The outside of the car is painted grey with two large red crosses on the side and a large red cross on the white roof. The interior is painted all white.

Ingenious Fog Signalling Machine Used by Railways



NOW that winter is approaching and fogs may be expected, we shall be hearing fog signals again. In this picture you can see an automatic fog-signalling machine which:—

- (a) Selects two detonators and places them on the line.
- (b) Removes the detonator caps from the line after they have been exploded and replaces them with "live" ones.
- (c) When a "proceed" signal is shown the machine can be operated to remove the detonators and hold them clear of the rail and replace them after the train passes.
- (d) Automatically lock itself, when only two detonators remain in the magazine, thus drawing the operator's attention to the need for reloading.

This machine is operated by a lever and is fed by two magazines, each of which holds 30 detonators. Two detonators are always placed on the rail on the approach to the signal post, in case one of them should fail to explode. A special feature of this machine is the speed with which it removes the detonators from the line once the "proceed" signal has been given. It frequently happens that a fog signalman has insufficient time to do this, but the machine is so swift, that, even if one of the detonators has actually been exploded by the oncoming train, it can be operated to remove the second one before the train passes over it.

But quite the most important feature of the machine is that it enables the fog signalman to work in greater safety at places where trains pass at frequent intervals and there are a great number of lines—such as at Jolimont Junction between Flinders Street and Richmond, where trains are running every few minutes throughout the day. So, the fog-signalling machine is a most useful safety device in more ways than one and undoubtedly assists the safe running of trains in foggy weather.

RAILWAYS CARRY YOUR FOOD

LOOKING around your breakfast table on any morning in the year you will see fresh food that have been brought to you from the country by the Victorian Railways. Through the night powerful engines have been hauling goods trains from every part of the State, many of them carrying perishable products for your breakfast. Whatever the distance of the entraining station from the metropolis, food railed on one day is available on the next day in Melbourne.

For instance, on two days in every week a train leaves Mildura—351½ miles from Melbourne—on one morning conveying grape fruit, oranges and other fruit such as grapes in season, and the train arrives in Melbourne the next morning.

Your food is gathered from the four corners of the State. South Australian celery and tomatoes are rushed across from Serviceton on the State border—a distance of 287 miles. Milk, fish and butter are brought up each night from South Gippsland; beet sugar from the Maffra district, and beans from further east. Fruit of all kinds comes down from the Goulburn Valley area in the North-East and fresh meat and eggs are brought from all parts. You will see, therefore, that an endless supply of fresh health-giving food is constantly being hauled into Melbourne by the Victorian Railways.

Here are some of the schedules, which will show you just how swiftly goods trains carrying newspapers cover their respective distances:—The Warrnambool train, which leaves Melbourne at 2.5 a.m. arrives in Warrnambool at 8.30 a.m., covering a distance of 166 miles in 6½ hours.

Warrnambool people have their morning paper at breakfast time. Ballarat people get theirs even earlier, as the Ballarat train reaches its destination at 5.30 a.m., while people in Murtoa, 185 miles from Melbourne, are reading their papers shortly after midday.

[CONTINUED IN NEXT COLUMN

Letters to Bill Smith

WE have two very interesting letters from Bill Smith's ever-expanding post-bag this month. The first one is from Doug. Simpson, of MacGowan Avenue, Glenhuntly. Doug's letter runs as follows:—

"Dear Bill,

I hope this letter is of interest to you and our club. My great grandfather, Mr. J. L. Simpson, served his time at the works of the celebrated George Stephenson, Newcastle-upon-Tyne, and, when only 21 years of age, was sent to St. Petersburg as superintending engineer to supervise the construction of the first locomotive introduced into Russia. Upon completion of the line, which was then in progress, Mr. Simpson received the appointment of locomotive superintendent and, in that capacity, remained in Russia for about two years. After his return to England, he was entrusted with similar duties in France and Germany. For some 15 years, he continued to enjoy the confidence of the eminent firm for whom he acted and was employed by them in responsible positions in various parts of the Continent."

No wonder Doug. is such a keen member of our Scholars' Club!

Bill has passed on to us another very interesting letter from Keith Hayter concerning among other things, loop-lines in the metropolitan area and "A" class locomotives without modified front ends.

Unfortunately we have insufficient space to print the reply to Keith's letter, as it is rather long. But one point of interest lies in the fact that Bill says 145 out of the total of 154 "A2" class locomotives are now fitted with the new modified front ends and smoke reflectors. This leaves only nine engines still to be converted.

It is the same all over Victoria. The Bendigo train has completed its 100-mile run by 6 a.m. . . . the Bairnsdale train has covered its 171 miles by 10.30 a.m. Day in and day out your Railways are keeping faithfully to a schedule of running times which is designed to provide the maximum of convenient fast-moving service throughout the State.

EDUCATIONAL TOURS HAVE STARTED AGAIN!

BY the time you read this, the new series of educational tours for 1939 will be in full swing again and those of you who have not already made the tours will be seeing lots of things, which, so far, you have only read about. All the tours are most attractive and will enable you to see the most interesting aspects of the Victorian Railways Department under actual working conditions.

Those of you who make the tours will inspect the Dining Car Depot, the Railway Printing Works, the Train Control System, the famous Newport Workshops, where "Spirit of Progress" was constructed, and where all the new air-conditioned cars are to be built, and a large number of other important sections of the Department.

A new feature in the tour program is the Sir Colin Mackenzie Sanctuary for Australian Fauna at Healesville. Two big parties of students visited this remarkable Sanctuary last month

and had an enjoyable day watching the platypuses (specially fed at 3.30 p.m.), the koalas, kangaroos, wallabies, emus and other Australian animals.

When the tours are over, you will have a very good idea of the immense amount of labour and organization that lies behind such an apparently simple matter as running a passenger train from Melbourne to Albury, and you will understand what a tremendous amount of work the Railways carry out in order to give efficient service to their patrons.

Air-conditioning Brings Higher Comfort Standard to Railway Travel

AIR-CONDITIONING has done much to increase the popularity of rail travel in Victoria. Since the first air-conditioned car was completed for service in December, 1935, the Victorian Railways Department has received innumerable letters of praise from local railway travellers and from visitors from overseas.

At the present time our only completely air-conditioned train is "Spirit of Progress." Whilst the many striking features of this really remarkable train have proved immensely popular with travellers, there is no doubt that one of its principal attractions lies in the fact, that, whatever the extremes of weather may be, a traveller on "Spirit of Progress" invariably makes his journey in a regulated and agreeable temperature and atmosphere.

Air-conditioned sitting carriages and an air-conditioned sleeping car are included in the train

in each direction between Melbourne and Mildura on six days a week.

At the present time 26 cars have been air-conditioned for use on your railways. These cars are of all types, including first and second-class passenger cars, dining cars, sleeping cars and buffet cars. In addition to converting cars which are already in use on the railways, the air-conditioning program this year includes the building of three new all-steel passenger cars, which will be similar in every respect to those in use on "Spirit of Progress." Three other air-conditioned cars will also be included in next year's program.

Since air-conditioning was first installed in 1935, it has been found possible to produce certain portions of the necessary equipment in this country. This means that less of the equipment needs to be imported, thus making the cost of installation even less than before.

NEW V.R. GUEST-HOUSE NOW BEING BUILT IN HEART OF AUSTRALIAN ALPINE REGION

"HOTHAM HEIGHTS," the guest-house on Mt. Hotham, which you will remember was destroyed by the bush fires that raged across the State in January, is being re-built by the Railways Department and will probably be completed in time for the forthcoming winter tourist season. "Hotham Heights" is situated in the finest skiing territory in Australia on the highest motor highway in the Commonwealth. It is 6,000 feet above sea level, and is 35 miles away from the nearest railway station, which is situated at Bright.

The Way and Works Branch of the Railways Department, which is in charge of the re-building of the guest-house, estimates that 300 tons of material will have been used by the time their work is through. Every ounce of this material will have to be carted over 19 miles of steep mountain road between Bright and the site of the new "Hotham Heights," and the job will have to be completed before the heavy winter snows come down and make the roads impassable.

All sorts of materials are included in the 300 tons required, covering such things as timbers 25 feet in length, steel, concrete and boilers and, on the other end of the scale, such fragile equipment as glass, crockery and electrical equipment.

Work on the new building is well under way now and the new "Hotham Heights" is taking shape rapidly. The new building will contain a large lounge-diningroom, bedrooms, drying rooms, bathrooms, a sun deck, central heating throughout, a hot and cold water service, electric lighting and everything else that could be required for the comfort and entertainment of the numerous skiing enthusiasts who will visit it during the winter sports season.

The building is so constructed that further extensions can be made at a later date, and, bearing in mind the fate of the old house, it is protected wherever possible by a powerful fire-resisting material.

A STORY — Little Betty Was Glad Of Reduced Sunday Suburban Fares . . .

BETTY, aged 12, had never seen the wonderful elephant and all the other animals at the Zoo. Her Mother had told her about this elephant, but Betty did not know how far the Zoo was from Oakleigh, where she lived. Perhaps the train, which ran near her home, would take them to the Zoo. After thinking about it, she made a plan to save up all the pennies she got and then, on Father's birthday, she would take her parents and her two brothers by train to the Zoo and, while they were there, Betty and her brothers would have rides on the elephant.

So she started to save. Every penny she got was put into the little tin money-box that her mother had got from the bank, and every time, after she had put the penny in, Betty would rattle the money-box to see if it was any heavier.

She told herself that she would not tell anyone about it—not even Mother. It was going to be a surprise. But, as time went on and the money-box got heavier, Betty found it harder and harder to keep her secret and, finally, the day came when she couldn't keep it any longer. She came in to her Mother with her money-box and told her all about her big surprise for Dad's birthday.

Is There Enough Saved ?

"It won't hold any more pennies," she said at the finish, "so I think there must be enough now. Could we open it?"

"I think so, Betty," said her Mother; and so it was done.

"Is there enough?" said Betty anxiously.

"Well, not exactly," said Mother, "but perhaps I could put a shilling or so to it and that would make enough."

Betty's face fell. "I hoped there would be enough," she said somewhat sadly.

"Just a minute," said her Auntie Joan who was visiting her Mother, "How much is there?"

"Four shillings," said Mother.

"Why that's plenty," said Auntie. "If we go by train it will cost less than that. Don't forget the new bargain Sunday fares! Father, Mother and three children can travel from Oakleigh to the Zoo and back again for less than 4/-.

All Have A Great Day!

They found that it would cost them only 2/4d.! But Father had the biggest surprise when he learnt how Betty had saved up her money. He told her to keep it and he would pay the fares—quite within reach of his "pocket" as he said. Thus, they all saw the elephant, also the monkeys in their new Island home, as well as all the other animals and spent a very enjoyable Sunday—an outing made possible by the railways big reductions in Sunday fares.

MAIN FEATURES OF WHEAT BULK HANDLING BRIEFLY DESCRIBED HERE

MOST of you will have heard something about the bulk handling of wheat, at some time or other, and wondered just what bulk handling means.

This little article will, we hope, explain "bulk handling" and how it is carried out. This system of handling wheat, which has been in use in New South Wales for many years, will be introduced in this State very shortly. It is a method of handling wheat in bulk instead of in bags at country railway stations, and of storing it in silos or grain elevators.

AT each of approximately 140 stations throughout the wheat districts of Victoria there will be a grain receiving elevator. The capacity of these elevators, which are built of concrete, and with bins up to 33 feet in diameter and about 100 feet high, varies from 65,000 to 300,000 bushels of wheat.

Wheat will be brought to the elevator by the farmers and unloaded from their wagons into hoppers from which the grain runs down to the boot of a vertical bucket elevator-belt. This lifts the wheat and loads it through grain chutes to the top of the bin. The method of storage used with bulk handling results in less damage and wastage of grain than with storage in bag stacks.

When the wheat is to be transported from the country centres, it is run down a spout into special railway trucks, which have been wheat-proofed to prevent leakage. In a recent issue of the Bulletin we told you something about these special wheat trucks, which are classed as "GZ" trucks. From the country elevators the wheat will be taken by train to the terminal elevators. There will be two of these, one at Geelong and one at Williamstown. The Geelong

elevator has a capacity of 2,250,000 bushels, while that at Williamstown will hold 2,000,000 bushels.

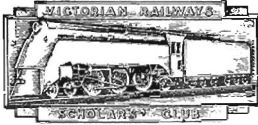
Wheat will be taken from the terminal elevator and loaded into ships by means of four rubber conveyor belts, each of which carries approximately seven tons of wheat per minute.

Wheat will be weighed as it goes into the country elevator, either by a weighbridge or by special hopper scales, which will be provided at some of the country plants. It will also be weighed on arrival at the terminal elevator.

Wet or dirty wheat will not be received into the elevators and must be dealt with separately. At the terminal elevators there will be facilities for cleaning a small percentage of dirty wheat, but wet wheat will not be handled at all.

Bulk handling has been in use overseas—especially in America—for very many years, and is undoubtedly the most economical method of handling grain in large quantities.

Wholly set up and printed in Australia at the Victorian Railways Printing Works, Laurens-street, North Melbourne, for the Publishers—The Victorian Railways Commissioners.



SCHOLARS' CLUB BULLETIN

May, 1939

No. 22

Bill Smith Urges You To See The Glory Of The Nearer Ranges

WONDER how many of you realize that some of the most lovely scenery in Victoria is to be found quite close to Melbourne. The members of the Scholar's Club who have visited the Sir Colin Mackenzie Sanctuary for Native Fauna at Healesville—which is only 39 miles from Melbourne—have been delighted by the beauty of the place. They have also found the wonderful collection of koalas, emus, wallabies, platypuses and other birds and animals in the Sanctuary tremendously interesting.

But even if you haven't taken part in one of these tours, there's really no excuse for your not knowing the beauties of such places as Upper Ferntree Gully, Eltham, Lilydale and their surroundings. Upper Ferntree Gully with its tall trees, delicate ferns and fascinating bird life is a grand place for a picnic, and there are numerous places within easy reach that you can hike to. It is an especially beautiful place in the autumn.

By the way, if you do happen to go to Upper Ferntree Gully you might look out for the little "Puffing Billy" (mentioned in the columns of this month's "Bulletin") that hauls the miniature train up the lovely narrow gauge line to Gembrook. You might even make the trip to Gembrook. It's a delightful journey, with the shrill-whistled engine puffing its way up into the hills.

No Travel Is Cheaper

The reason why there is no excuse for your not knowing all about these places is that it costs you so little to get there. Any Sunday, no matter what part of Melbourne you live in—Williamstown, Coburg, Sandringham, anywhere you like—any child under 16 can go by train as far as Upper Ferntree Gully, Lilydale, Hurstbridge or Frankston, in fact, anywhere in the electrified area, for only 6d. second-class return.

There are special reductions, too, for family travel. Try and persuade your father and mother to take you and your brothers and sisters to the lovely nearer hill resorts some Sunday. Why, it's worth it for the train ride alone!

INTERESTING TALKS GIVEN BY RAILWAY OFFICIAL

THE Man-in-Grey—who, as you are aware, has to know the answers to all sorts of questions—was never so busy as Mr. P. H. O'Keefe, an officer of the Department, who was recently associated with an interesting educational innovation introduced by one of the teachers (Mr. J. S. Crocker) at the Lee Street State School, North Carlton.

Mr. O'Keefe went along to the school to give three talks to the senior pupils on numerous little known but highly important features of railway transport. These students have shown a great interest in transport matters and they were selected to form a tutorial grade in which special instruction on transport was given.

At the end of each address, half an hour was allowed to the students to ask any question they could think of concerning the railways. They certainly managed to think of plenty, and some of their questions showed a keen observation and an eager desire to learn about the science of running a modern railway system.

MELBOURNE'S ELECTRIC TRAINS BEGAN 20 YEARS AGO

ASK your father if he knows where this photograph was taken. It shows three steam suburban trains approaching Richmond from Flinders Street before the introduction of electric trains. This month—on May 28—will be the 20th anniversary of the beginning of the Melbourne and suburban electric train services. The first train ran on that date from Sandringham to Essendon. Today the suburban electric system covers 173 miles, embracing 437½ miles of track.



VICTORIAN RESO TRAIN WAS FIRST OF ITS KIND IN THE WORLD

YOU have all heard of "Spirit of Progress" and "The Overland" and "The Boat Train," but I wonder how many of you have heard of "The Reso Train." In the first place it is called "Reso" because that is much easier to say than Victorian National Resources Development Train. The word is an abbreviation of "resources." While on tour, the Reso Train is the home of the passengers, who sleep and have their meals on the train. It consists of a parlor-observation car, three sleeping cars, dining car, office car, staff car and a guard's van. It is equipped with hot and cold showers and wireless, and can accommodate 60 passengers. The inclusive fare for a week's tour is £14/14/-.

The purpose of Reso train tours is to enable people to see the natural developments of Victoria in the various areas visited. The party making the tour always consists of people from different walks of life—business men, farmers, bankers and others—so that they may get a better knowledge of one another's interests.

Stops are made at various places and inspections made of farms, sheep stations, orchards, irrigation systems, forest regions, fruit canneries and many other aspects of the State's activities.

You can imagine just how much it is possible to learn on such a tour. For instance, farmers in one portion of the State can learn at first hand the methods adopted by farmers in other areas. The wonderful results possible by scientific water conservation and distribution are clearly seen and the general understanding between people from the city and those from the country is improved.

Finally a Reso tour shows clearly just how important the railways are to the community, and what a large part they have played in opening up the resources of the country.

Since the Reso tours were started in 1922, 29 tours have been conducted in Victoria. The idea has also spread to other States, and tours have been conducted from Victoria to Western Australia, Central Australia, New South Wales and Queensland.

Last year, a party of Victorians made a Reso tour of New Zealand and it was so successful that another was held early this year. A party of New Zealanders has just completed a Reso tour of Victoria.

DEAR MEMBERS—

NOW that your Easter holidays are over I hope you will be looking forward to making lots of educational tours, including the new tour to the Sir Colin MacKenzie Sanctuary for Native Fauna at Healesville, where you will see in delightful natural surroundings Horatius the Eagle and Wenda the Wombat and all the other animals and birds, including the beautiful lyre bird which is so rarely seen but frequently heard in the bush.

And all the tours of railway activities are so interesting too! In this issue you will read all about the wonderful new map of Victorian primary production, which you will see at the Melbourne Goods Sheds.

And don't forget, Sunday bargain fares enable you to travel from anywhere to anywhere on the electrified system for only 6d. return.

Your Pen Pal,

Bill Smith

A Map You Must See At Melbourne Goods Sheds

BRINGING food from the country for Melbourne's million people, wool for clothing, timber for building and furniture, and coal for light, heat and power . . . these and many other transport tasks are the daily concern of your railways.

Have you ever wondered just where the different products such as fruit, maize and potatoes are chiefly grown, or in what parts of the State most of the wheat and wool is raised?

In order to show clearly to those taking part in the Scholars' Educational Tours just where each different product is produced, a large map of Victoria in striking colours, showing the railway network and distribution of primary industries, has recently been installed at the Melbourne Goods Sheds.

As a result, the Scholars' Tour of the Goods Sheds has been made even more interesting and instructive for, together with the map, there is a display of samples of the different kinds of produce shown.

These samples are arranged in 35 shelves, each plainly labelled. The map is mounted on the wall above the shelves and by means of a pointer the guides can indicate exactly where each kind of produce comes from.

Unfortunately we have not got enough space in "The Bulletin" to show you what a wonderful map it is, but be sure to make a visit to the Goods Sheds and see it for yourselves.

Bill Smith's Mail Bag

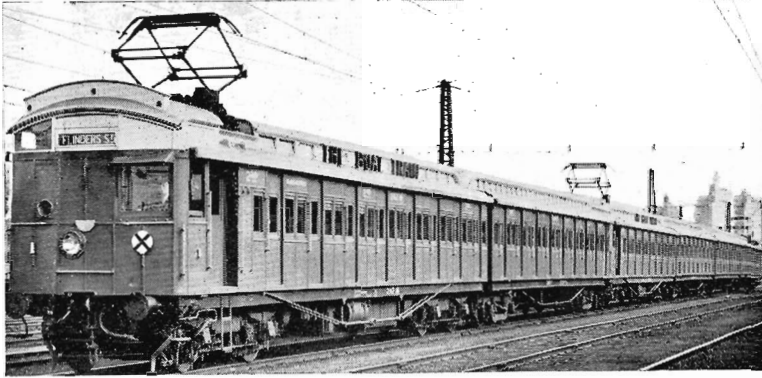
ONE of the most interesting letters in Bill Smith's big mail-bag for last month came from Kevin Cassidy of Coburg. Kevin wanted to know why the line was a double-track to Coburg and from there on to Fawkner only a single-track.

The reason for this is that most of the electric passenger and steam freight trains finish their runs at Coburg and, consequently, the service between Coburg and Fawkner is not sufficiently frequent to necessitate the use of a double-line.

Usually only one train is permitted on this section at one time, because there are no crossing loops provided at any of the stations (except Fawkner), but electric trains cannot be crossed there because the siding is not wired.

Another letter was from Ted Hawkins of Benalla. Ted, who recently made one of the trips to the Newport Workshops, wanted to know why some signal-boxes are marked "A" and others "B." This is done of course, when there are two or more signal-boxes near the same station. It is the custom to refer to them as "A," "B," "C," etc., so as not to confuse them when speaking or writing about them.

Victorian Railways Rolling Stock



"THE Boat Train" illustrated here is the second of our series of pictures of locomotives and rolling stock. It is an electric train painted light blue with the handrails and roof painted in silver. At night it is floodlit from end to end, and on three of the six cars the name "The Boat Train," also floodlit, is shown in large red letters on the roof. "The Boat Train" operates between Flinders Street and Port Melbourne when overseas passenger steamers are berthed at Station Pier.

"Starve Your Railways And Then—What?"

HAVE you ever stopped to think how important railways are when a country is at war? It is on the railways that generals depend, when they want to move large bodies of troops. It is on the railways that they depend for the army's food supply, for the supply of ammunition, and for the speedy and comfortable removal of wounded men from the front to hospitals behind the lines.

IN addition to this, in time of war the railways may have to take over the handling of all coastal trade, which, in times of peace, is carried by shipping. The railways have to do all this in addition to their usual work. You can see, therefore, how important it is for the equipment of the railways to be maintained in good condition so that they can cope with any such emergency.

This, of course, takes money—a great deal of money. In other words the railways depend upon revenue to purchase new equipment, etc., and a large revenue can only be obtained when the railways have the whole-hearted support of the people. No wise farmer would starve his horse and still expect to get good work from it. Nor can you starve your railways and still expect them to do all that is required of them.

Huge Losses Of Revenue

Perhaps there is a tremendous wheat harvest, but the railways are not prepared or equipped to rush the huge surplus of wheat to the waiting market. Or perhaps there is a terrible drought and it becomes necessary to move millions of head of livestock quickly to better pastures. Once again your railways are not equipped to meet this crisis. They have been starved. In other words they have lost the revenue necessary to maintain them at the peak of efficiency, and this loss is principally due to the growing road competition which deprives your railways of as much as £2,000,000 per annum in revenue.

In time of war, an inefficient railway system, weakened by lack of revenue, would be as dire a calamity as a weak defence service or the lack of munitions. Support your railways; feed them, and they will prove invaluable in time of national emergency.

NARROW GAUGE LINES IN MOUNTAINS

Of course you have all heard of the term "narrow gauge" railway, but did you know that the Victorian Railways operate four separate sections of narrow (2 feet 6 inches) gauge railway? They are the lines from Upper Ferntree Gully to Gembrook; Moe to Walhalla; Wangaratta to Whitfield; and Colac to Crowes. Altogether they total 121 miles of track.

The first of these lines to be built was that from Wangaratta to Whitfield in North-Eastern Victoria and the most recent that from Moe to Walhalla.

A narrow gauge was selected for these lines because they traverse mountainous country and with the exception of the Wangaratta-Whitfield line, are steeply graded with sharp curves which can only be negotiated by narrow gauge trains. Another important reason was that narrow gauge lines reduce the cost of construction—a very important matter in scantily populated areas.

Naturally special rolling stock and locomotives have to be provided to operate the narrow gauge lines. There are 15 locomotives of two types and passenger cars, brake vans, open, louvred, refrigerator, cattle and explosive trucks—all miniatures of the same classes of vehicles on the broad gauge lines. They are all bogie vehicles with miniature automatic couplers and all fitted with Westinghouse air brake equipment.

A great deal of timber and all other kinds of goods and livestock are carried by narrow gauge freight trains. All of this freight has to be transhipped to or from broad gauge trucks at the junction stations.

VICTORIAN RIVER NAMES CHOSEN FOR RAILWAY BUFFET CARS

THE new air-conditioned buffet cars are all being named after Victorian rivers. Names already chosen are—"Taggerty," "Wimmera," "Mitta Mitta," "Moorabool," "Tanjil," "Kiewa" and "Moyno." No doubt you all know where these rivers are. If not, you should look them up on your map. Of these buffet cars, the "Taggerty," which is a specially converted "AE" carriage, was the first buffet car to be placed in running on the Victorian Railways system. It made its first run in April, 1937, and is now in regular service on the Bendigo line.

"Wimmera," which is the only other buffet car in regular service as yet, was the first all-steel, air-conditioned car to be constructed for service on the Victorian Railways system and went into running in December last.

Then there is "Mitta Mitta," which will shortly be in service on the Melbourne-Warrnambool line. In the saloon of this buffet car, which is of all-steel construction, the ceiling, walls and front of the counter are in different shades of grey, the window sills are in tangerine, and the rubber floor-covering is a combination of grey and brown.

For this car, the railways have introduced a new lighting system. Working with the State Electricity Commission the railways engineers have built a series of what are called "louvred" lights, which will give a softer, though greater, illumination than the trough lighting, which is a feature of the earlier buffet cars.

In addition to the ordinary lighting system, small frosted globes are fitted under the front of the counter, which improve the appearance of the saloon.

RAIL TRAVELLERS FORGET 40,000 ARTICLES A YEAR!

DID any of you hear a talk over the radio recently, in which an officer from the railways Lost Property Store told listeners some interesting and amusing facts about his job and experiences? If you did, you must have been surprised by some of the facts he disclosed.

For instance, of the 40,000 or so articles that find their way into the Lost Property Store in a year, only about 50 per cent. of them are claimed or traced to their owners. Fancy people forgetting to call for something they've forgotten! That's real forgetfulness for you.

In case you don't know, this is the procedure when an article is lost on the railways. If it is handed in at a suburban station it is kept for 24 hours at that station, and, if not claimed in that time, it is sent to the depot at Flinders Street and held for three days.

If it is still unclaimed, it is sent on to the Central Lost Property Store at Spencer Street. If handed in at a country station, it is sent direct to the Spencer Street Store after 24 hours.

If no address or telephone number is found with the article, and the owner does not claim it within six months, it is put up for public auction.

The auction sales are held once a month at the Melbourne Lost Property Depot, and a rare assortment of articles is disposed of—including umbrellas, ladies' gloves, bags, suitcases, golf-sticks, tennis rackets, hats, spectacles, cameras, watches, and sometimes even bicycles.

But some people just can't stop forgetting . . . they come in to claim some article and go away leaving a case or a bag on the counter!

Geelong Wheat Silo Will Be Big Structure

LAST month we told you something about the new bulk-handling system of transporting wheat. We mentioned that the wheat would be stored at two main terminal silos, one of which would be at Geelong and the other at Williamstown. This month we are going to tell you something about the main terminal silo or elevator at Geelong.

This huge structure is the terminal storehouse for grain from the Mallee, Wimmera and Western Districts. It consists of a trackshed in which bulk grain is unloaded from railway trucks, a working house in which grain is elevated and weighed, a storage house and a shipping gallery from which grain is loaded into ships.

The track shed is served by four sets of railway tracks capable of handling 250 trucks daily. Under the tracks in this shed are 12 hoppers (three to each track) into which grain is unloaded by opening the truck doors and then scraping or sweeping out the remainder of the grain.

The grain is carried up to the top of the elevator by special lifts, which are fed by conveyor belts running from the hoppers. These lifts carry it to the top of the working house for weighing.

Over Two Million Bushels!

The storage capacity of this elevator is 2½ million bushels. The storage capacity of the storage house bins is 2 million bushels, and each bin consists of 28 main storage bins and 18 interspace bins. Each bin is 112 feet high with 8 inch walls and contains 67,000 bushels.

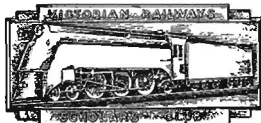
Grain is carried on the level by means of continuous rubber conveyor belts. Altogether, this plant contains two miles of conveyor belting.

The grain is lifted 180 feet by special grain elevators, which are driven by an electric motor. These elevators discharge grain at the rate of 160,000 bushels per hour into a small storage garner from which the scales are filled. There are seven scales in all. Each scale has a capacity of 40 tons at weighing and is accurate to the nearest five pounds.

Grain to be shipped away to countries overseas is loaded direct into ships from the working house bins by an elaborate system of conveyors. There are four sets of conveyors for ship loading.

The pier can accommodate two ships, each of which may be loaded simultaneously at two points, or one ship may be loaded at four points. The shipping gallery is 80 feet above the water and grain is discharged into the holds of ships by telescopic spouts.

Wholly set up and printed in Australia at the Victorian Railways Printing Works, Laurens-street, North Melbourne, for the Publishers—The Victorian Railways Commissioners.



SCHOLARS' CLUB BULLETIN

July, 1939

No. 24

A WONDERFUL RECORD

Railways Carry Consignments With Great Care

YOU would think that, with all the fragile and easily damaged freight that the railways carry in the course of a year, there would be quite a lot of unavoidable damage.

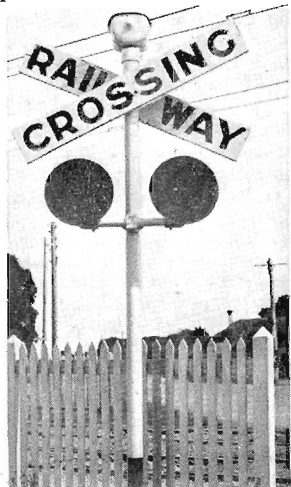
Actually the risk involved in the use of the railways for the carriage of goods, of whatever nature, is small indeed. Last year the freight handled by the Victorian Railways consisted of 6,115,298 tons of goods carried an average distance of 123.3 miles, and 11,440,000 head of live stock carried on an average 120.3 miles. The ton mileage, that is, the number of tons hauled one mile, aggregated *more than 838 millions*.

Yet, although the millions of consignments included such articles as glassware, electrical transformers and eggs, the care exercised by the railway staff is shown by the fact that claims for loss, damage and delay, amounted to less than £16 for every million tons carried one mile, or, to simplify the figures, less than 4d. for every 1,000 tons carried one mile.

Figures like that show the great care taken by the railways to deliver consignments in good order.

Protecting Level Crossings

HERE is a picture of one of the 13 flashing light automatic warning signals which the railways have installed in order to protect busy level crossings. The installation of still more has been planned.



When a train is approaching the crossing, its wheels running across an insulated section of track complete an electric track circuit which causes the two bright red lights to flash on and off alternately (hence the name "flashing light"). Simultaneously an electric gong sounds continuously as the lights flash on and off until the crossing is again clear.

MORE BUFFET CARS

Railway Passengers Like Eating While Travelling

IN the May issue of the Bulletin we discussed the buffet cars in service on the Victorian Railways. On June 5 two more buffet cars went into service—one on the Melbourne-Warrnambool line and the other on the Melbourne-Horsham line.

This now makes four buffet cars in commission, the other two being on the Albury and Bendigo lines. As they become available, buffet cars will be included on other main lines, thus steadily improving the refreshment service facilities provided for passengers. At the same time, by eliminating stops for refreshments, they will enable the running time of trains to be reduced.

Buffet cars are proving very popular with the public. Now, wouldn't you like to sit in an air-conditioned buffet car on a long rail journey and enjoy a meal under such novel and comfortable conditions. You might think that the dishes would be likely to slip about with the movements of the train, but the rubberized surface of the counter prevents this.

All buffet cars are air-conditioned and you can see the chops, sausages and other nice things being cooked under the most hygienic conditions through the glass walls of the kitchen at the end of the car.

DEAR MEMBERS—Did you notice the little insert in last month's Bulletin about the special Sunday tours to the Sir Colin MacKenzie Sanctuary for Native Fauna at Healesville? I hope you didn't just tear it up in your eagerness to read your Bulletin, because it contained a message of interest to all of you.

In case any of you didn't read it, it was about a new special train that runs every Sunday morning to Healesville, connecting there with cars to the Sanctuary. The fares are only 6/6d. for adults (3/3d. for you if you are under 14) and this will cover your rail travel, your road journey to the Sanctuary and also admission. Now, isn't that cheap for an all-day visit to Horatius the eagle, Wenda the wombat, the lovable koalas and all the other animals and birds at the Sanctuary?

Tell your parents about this delightful trip right away, and persuade them to take you to Healesville next Sunday and remember that most of these animals and birds are different from those you ordinarily see at the Melbourne Zoo.

Your Pen Pal,

Bill Smith

Heartiest Congratulations To Members Winning Prizes In Essay Competition

I WANT to offer my heartiest congratulations to the four members of the Scholars' Club who were awarded prizes of £1/1/0 each for their excellent essays on the Sir Colin MacKenzie Sanctuary, Healesville. I am very pleased to see how much the Scholars' Club excursions to the Sanctuary are appreciated by all the children who take part in them and was particularly impressed by the close attention which the prizewinners paid to all the wonderful birds and animals that are to be seen at the Sanctuary.

The winners were: Joan Miller, 102 Banfield Street, Sandringham; William Rogers, 128 Riversdale Road, Camberwell; Ashley Mason, 15 Hazel Street, Camberwell; and Marjorie Keith, 14 Melton Avenue, Carnegie.

In her essay Joan mentioned:—"What appealed to me most were the fine, big aviaries and enclosures giving the inmates plenty of room. I think the animals and birds are very well cared for. Also, I think the surroundings are ideal, being mountainous country with plenty of timber, ferns, and water from the Badger Creek, which flows through the Sanctuary."

Bill Rogers gave an accurate description of everything he saw. "In fact," he wrote, "there are so many interesting creatures in the Sanctuary that I could almost fill a book describing them."

Ashley Mason particularly likes the koalas. "They were delightfully happy," he wrote, "high up in the tree-tops eating only the young and tender leaves."

Marjorie Keith was fascinated by the platypus. "It is the most extraordinary animal in the world," she said, "and is found only in Australia. It has a bill and webbed feet like a duck, lays eggs and suckles its young like a mammal, and feeds under water on worms and grubs. Its body is furry like a rabbit's, it growls when disturbed, and on the heels of its hind legs are spurs connected with poison glands."

All the essays were very interesting, and I congratulate also those who did not win prizes for their bright observations. I am sure that all of you who have been to the Sanctuary once want to go again and will tell all your friends about this unique zoo in the mountains.

Bill Smith

Miles Of Meat Pies!

All the meat pies made by the railways bakery at the Dining Car Depot, North Melbourne, during the month of April were placed end to end they would stretch from Flinders Street to Moonee Ponds—a distance of roughly $4\frac{1}{4}$ miles!

That month a record number of pies was made for railway patrons—52,704. Obviously, rail travellers must be very fond of railway pies!

DID YOU KNOW?

THAT among the 600 different grades represented in the Victorian Railways is the position of Ratcatcher. It is natural that with so much property to look after the Department should be troubled with rats. The Ratcatcher is assisted in his work by specially trained fox terriers and a liberal supply of poison.

* * *

That the Red Cap men, though not employees of the Department, are licensed by the Department to act as luggage porters at the metropolitan terminal stations, i.e., Flinders Street and Spencer Street.

* * *

That the Railways have their own Poultry Farm, which is located at Noble Park and provides eggs and poultry required by the Refreshment Services Branch.

* * *

That one of the most thoughtful gifts you can send to a distant friend is a Travel Order, which can be purchased at any railway station. You merely send it to your friend, who, on presenting it at the booking window of his local station, receives a free railway ticket for the journey marked on the order.

LETTERS TO BILL SMITH

BILL received many interesting letters this month, among them being one from Ken. Meyer of Berwick. Ken. wanted some information regarding a "C" class engine that he had seen at Berwick.

In his reply Bill wrote that it was built for heavy main line freight service between 1918 and 1927. "C" class locomotives are a modern 2-8-0 type. The class letter "C" stands for "Consolidation"—the name given to locomotives with this wheel arrangement. They have two cylinders and are considerably larger and more powerful than the "A2" class.

What Ken. thought was a cylinder on one side only (the right-hand side) between the funnel and the dome is the cross compound air compressor for the Westinghouse Brakes.

Len. Franklin of Glen Iris asked some questions about the Eastmalvern line. Bill replied that the railway line between Burnley and Eastmalvern is a double line as far as Heyington and from there to Eastmalvern a single line, with crossing loops at Tooronga, Glen Iris and Eastmalvern.

The line is single because, except at peak periods, there are not sufficient trains to necessitate the provision of a double track all the way. With the present single line, trains are crossed without delay when required. The line may be duplicated in the near future.

VICTORIA'S PROGRESS FROM GOLD-MINING DAYS

How Railways Have Continuously Assisted Development

FEW people stop to think just what a fix we would be in without our excellent trains, especially at Christmas and Easter when holidaymakers flock in their thousands to every part of the State. Can you imagine, then, what a state of affairs existed during the mad gold rush of 1851 onwards, when the only means of transport were pack-horses, bullock wagons or horse-drawn coaches? When gold was found at Clunes, Ballarat, Bendigo and other places, men just dropped their tools, tradesmen closed up their shops and all set off with their swags, some pushing barrows, others using the forms of transport mentioned. Remember, too, that only rough cart tracks were available. They had not the smooth bitumen-surfaced roads that we know today.

PROBLEMS OF EARLY ARRIVALS

TO make matters worse, boat loads of people were arriving from other countries and were swelling the ranks of the fortune-seekers who trekked across the country in an unending stream. Once the canvas cities had sprung up there was the further problem of carrying food and clothes, household requirements, furniture and building material to them. This had to be done by the slow and inadequate animal-drawn transport.

First Railway Opened

The gold rush played a big part in the birth of the Victorian Railways. The need of some better form of transport than a horse-drawn cab between Port Melbourne (then called Sandridge) and Melbourne was responsible for the formation of the Melbourne and Hobson's Bay Railway Co., and on September 12, 1854, the line was completed and opened for traffic.

Government Takes Over

Engines had been ordered from England, but as these had not arrived, it was decided to make one here. This will give you an idea of the spirit and determination of the early pioneers.

Soon after new railway companies were formed and began constructing other lines. They did not have sufficient money to carry on however, and after a few years, the Government bought out all the companies and started the State controlled service which you know today.

Railways Save Country

Lines were built to all parts of the State, opening it up for settlement. After a few years the gold rush died out and you can see what a tragedy was averted by the construction of the railways. Without them, the thousands of people engaged in mining would have had no means of earning a living, and would have been starved out of the country. It would have been no use going in for farming because the farmers would not have been able to get their products carried cheaply enough to market.

Big Part Played

So you see what a big part your railways have played in the development of the country, and how thankful we should be for our modern and efficient system of railway transport.

Victorian Railways Are State's Biggest Customers

IF you walked into the grocer's and said "I want 141,000 lb. of sugar, please," he'd be a bit surprised, wouldn't he? Yet, that is how much the railways use in a year. And that is not the only item which they purchase in such enormous quantities. Last year, for example, the Refreshment Services Branch used 99,000 lb. of butter, 103,000 4-lb. loaves of bread, 17 tons of raisins, 114,000 gallons and 218,630 bottles of milk, and 14,000 bottles of sauce.

And consider the other items on the railway shopping bill. Coal is, of course, one of the principal needs, and there are also rails, sleepers, bridge timbers, castings, forgings and steel tyres. Every year the railways require thousands of yards of serge for uniforms, 100 tons of rope, 15 tons of leather, £1,200 worth of screws, 800,000 luggage checks and 4,000 brooms.

The total cost of all these requirements last year was over £2,000,000, and of this amount 86 per cent. represented purchases of Australian goods. Practically all of the imports came from Great Britain.

From these facts you will no doubt draw the lesson that the more you patronize the railways—Victoria's biggest customers—the more their custom will grow with benefits to all concerned.

THIS WILL HELP ZOO PATRONS

UNTIL quite recently, the platforms at Royal Park (the Zoo station) were on a sharp curve. This has now been eliminated, thus making it much easier for passengers, particularly children, to board and alight from trains. The new platforms are concrete faced and the work necessitated the shifting of the signal-box and station buildings on the "up" platform about 35 feet, and alterations to the interlocked level crossing gates and signals. Next time you go to the Zoo, get father or mother to take you by train to Royal Park. Don't forget cheap family tickets are on issue throughout the year, and on Sundays children under 16 can travel from anywhere on the electric system for only 6d. second return.

Reclamation Depot Is Important Feature Of Victorian Railways Activities

THOSE members of the Scholars' Club who have visited the Spotswood Storehouse have seen the Reclamation Depot which is situated close to the Store. All the worn-out railway material and machinery in the State comes to this Depot and grows into mountains of tangled, rusty metal. Everything that can be used again is renovated on the spot by special machinery and goes back into commission. Old dog spikes are straightened, old bolts rethreaded. Much of the material that cannot be used again is sold as scrap iron.



One of the most interesting features at the Depot is the overhead crane that hovers over the twisted mass of iron and steel, and picks up two tons at a time by an electro-magnet. A picture of this crane is adjoined.

The Reclamation Depot is noted for its tidiness. This is something you will not expect in a yard full of the rejected material of a vast undertaking. All the stuff is sorted out, classified and stacked in proper order. As in the Storehouse, there is a place for everything, and nothing is left lying about.

Material handled at the Reclamation Depot is worth £80,000 a year.

Over 80,000 Children Cared For At Railways' Nursery, Flinders Street Station

DO you know that since the Railways Nursery was first opened in June, 1933, more than 80,000 little boys and girls have been taken care of there? The Nursery is on the second floor of the Flinders Street station. You go in through the doors in Flinders Street and take the lift.

The Nursery has been re-modelled and enlarged considerably since it was first opened and it is staffed by trained nurses, who have specialized in mothercraft and are practised in dealing with children.

There is a large open-air playground in the Nursery, which is protected by unbreakable glass windows and wire-netting of the smallest mesh. The playground is roofed over so that the little guests will have plenty of cool shade in the summer months. On colder days the playground is sheltered by strong canvas blinds and, in the really cold months of winter, it is kept warm and cosy by a special heating system.

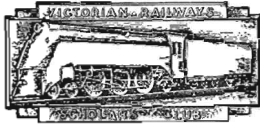
Additional features of the playground are two large aviaries full of brightly coloured birds and an aquarium containing fish.

You can see from this that the Railways Nursery is the ideal place for mother to leave your little brother or sister, while you and she wander around the city. Ask your mother to get one of the handsome folders, which will tell her all about the Nursery. It contains some very fine photographs of the different parts of the Nursery and will tell her about the special little dining room, cotroom and bathroom.

The Nursery is open from 9 o'clock in the morning until 6 o'clock in the evening on Mondays to Saturdays inclusive, and on all holidays, except Good Friday and Christmas Day. The charge is only 6d. for the first hour and 3d. for every hour, or part of an hour, for children of all ages. The maximum charge—not counting extras—is only 2/- per day.

So, ask your mother to make enquiries about the splendid Victorian Railways Nursery.

Wholly set up and printed in Australia at the Victorian Railways Printing Works, Laurens-street, North Melbourne, for the Publishers—The Victorian Railways Commissioners.



SCHOLARS' CLUB BULLETIN

August, 1939

No. 25

WHEN IN DOUBT—ASK THE MAN-IN-GREY!

ON the main concourses at Spencer Street and No. 1 platform, Flinders Street, stand the railway lighthouses—in other words, the Men-in-Grey, for the sight of these informative officials is often as welcome to a harassed traveller as a beacon to a storm-tossed ship.

The Man-in-Grey has to be exceptionally well informed. On an ordinary day he has to answer about three questions a minute, but at busy holiday periods he is asked many more. Most of the questions relate to the departure and arrival times of trains, but, of course, many strangers to this city naturally pick on such an important-looking person to ask about what hotel they should stay at and all sorts of matters.

His Mistake !

In fact, one foreigner was so impressed by the Man-in-Grey's uniform and the note of authority in his voice that he approached him and asked: "Excuse me, are you Die Herr Burgomaster?"

On Melbourne Cup Day, when thousands of racegoers pass through Spencer Street, the Man-in-Grey is frequently asked for a tip. Though he sometimes offers one, he accepts no responsibility for his information since horses rarely run to such regular schedules as trains.

The Man-in-Grey has been greatly assisted in his work by the installation of loudspeakers. Many of you have probably had the annoying experience of missing a friend whom you had come to the station to meet, on account of the dense crowd.

Other Ways

The right thing to do in such circumstances is to go to the Man-in-Grey and ask him to make an announcement. He also announces the receipt of telegrams for travellers or people meeting trains, and generally helps in the smooth handling of the crowds of people who daily pass through our terminal stations.

Our Best Wishes To Mr. H. W. Clapp

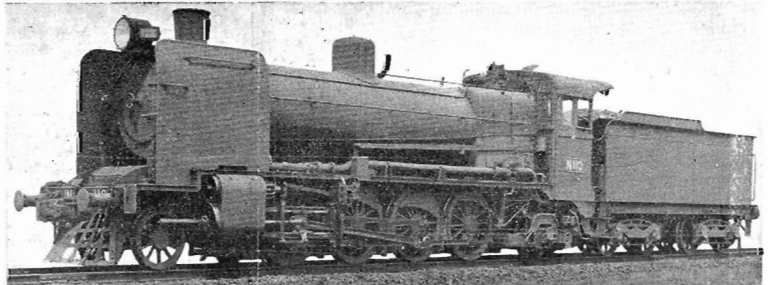
WITH the appointment last month of Mr. Harold W. Clapp as General Manager of Commonwealth Aircraft Construction, the Railways lost a Chairman of Commissioners who was an inspiration to the service for nearly 20 years. Commencing with a three years' apprenticeship to a Melbourne engineering firm, Mr. Clapp entered upon a career, both in Australia and America, which has been particularly brilliant. Mr. Clapp was responsible for many improvements in the Victorian service. He was never tired of impressing on railwaymen that they were members of a vast "team" and that teamwork was the first essential for a really efficient service.

His interest in the education of railwaymen was a deep and personal one. He donated an annual prize for the most outstanding student at the Victorian Railways Institute Classes, and, to improve the scope for advancement for apprentices, he opened the Newport Technical College in 1923. Mr. Clapp's great record is an inspiration for all boys interested in railways, and I am sure that all members of the Scholars' Club join with me in wishing him every success in his new position.

NEW PHOTOS. IN CARRIAGES

DARESAY you have all noticed the attractive new photographs of Victoria's many beauty spots in our passenger carriages. All of the scenes depicted have been photographed by the Department's own photographer. The work of replacing the old photographs—nearly 20,000 in all—is a big and necessarily slow job. You must understand that the photographs can only be changed when the carriages are in the shops for painting or repairs. However, over 12,000 new photographs have been installed since the work was commenced more than two years ago.

HERE is a picture of a locomotive of the "N" class—2-8-2 or Mikado type. This is the first of a class of 30 built at the Newport Workshops between 1925 and 1931. The driving wheels are 54 in. in diameter, the two outside cylinders 20 in. x 26 in. and the boiler pressure 175 lb. per sq. in. The tractive effort is 26,960 lb. (but in the case of No. 110, which is fitted with a booster, it is 30,200 lb.). The total weight in working order of engine and tender is 120 tons 13 cwt. Locomotives of class "N" are used for freight and mixed train services on all lines, including branch lines. They carry the numbers 110-139 inclusive.



INSPECTING STATE-WIDE RAIL SYSTEM IS BIG JOB FOR COMMISSIONERS

THE Railways Commissioners are always busy men but never more so than on their periodical tours of inspection of railway property throughout the State. When you consider that there are 4,720 route miles in the Victorian Railways system, and that, in the course of a year, the Commissioners inspect every siding, station, goods shed, ganger's hut, in fact every bit of railway property spread over this wide-flung network, you have some idea of the immensity of their task.

The Commissioners are accompanied on these tours by their personal staff and the heads of various Branches of the service. The party has its own train, which consists of a "D3" class locomotive, an observation car fitted out as an office and a sleeping car.

The reason why this type of locomotive is used is because it can travel on any type of track. If a heavier type were used, the tracks on some of the branch lines would not be strong enough to bear its weight at the speed it usually travels.

There is no loitering on a Commissioners' tour. Having so much to see, the party must necessarily work to a very compressed program. The train usually leaves Melbourne on Sunday night, so that, when the actual work of inspection is commenced on Monday morning, the party is already many miles from its starting point.

And every day of the tour a full day's work is in store for them! The party is up with the lark and retires with the sparrows. No portion of railway property, not even the smallest drawer in a Stationmaster's office, is too insignificant to merit the attention of the Commissioners.

In addition, deputations are received from local residents, with requests for alterations to service, etc. And, of course, there is nearly always an eager and curious band of youngsters waiting to see the train when it pulls into the station.

These tours usually last from three to five days, and they are made on an average of one week in every four.

DEAR MEMBERS.—Well, this month we have a great variety of interesting information for you in the pages of the "Bulletin," so much, indeed, that we haven't enough space to go round! Quite a lot of our members have never written to me yet, and remember, I like to hear from you and answer your questions about the Railways. Although driving an engine keeps me very busy, I can still find time to answer your questions.

Just lately, I have been driving some of the fine new "X" class freight locomotives built at Newport Workshops last year, and which we described and illustrated in the December issue of the "Bulletin."

They are wonderfully powerful engines, but did you know that they are building an even bigger and more powerful 4-8-4 type locomotive, to be called the "H" class, at Newport, for passenger service between Melbourne and Ararat? I hope to be able to tell you all about them in an early issue of the "Bulletin."

Cheerio,

Bill Smith

Look For These Signs Beside Rail Tracks

EVERYBODY who travels by train has seen mile-posts, and other similar symbols erected alongside the tracks and at stations, but very few people really know just what the purpose of those symbols is, and what each means to drivers of trains, gangers and others.

Of all the lineside symbols, mile and half-mile posts are the best known and they are provided for the guidance of train crews and gangers so that they may know exactly where they are—how far from the nearest station and so on—throughout their journeys and the points on the track where speed restrictions and/or repairs are in progress.

Also all level crossings are identified by a series of numbers: For example, the sign

$$\begin{array}{r} 139 \\ \hline 43 \end{array}$$

painted on a level crossing fence post indicates that it is 139 miles 43 chains from Melbourne.

Other frequent signs are curve speed boards. These consist of white-painted pointed boards with black numbers. They indicate the maximum speed at which trains may traverse curves and the direction of the curve (according to the direction of the pointed end).

In Electrified Area

Alongside the tracks in the electrified suburban area are three different signs for the guidance of electric train drivers in the economic use of electric power. These consist of either two or three white-painted parallel strips pointing upwards or downwards at an angle of about 40 degrees or horizontally. They are sometimes fixed to overhead structure posts.

Other lineside symbols only found in the electrified area are electric train "stopping indicators" on stations. These bear the numbers 2, 4 or 6, and indicate to the Driver when a train of 2, 4 or 6 cars is in the platform. At the far end of each platform, there is also a white star with a black centre, which marks the stopping place for a 7-car train.

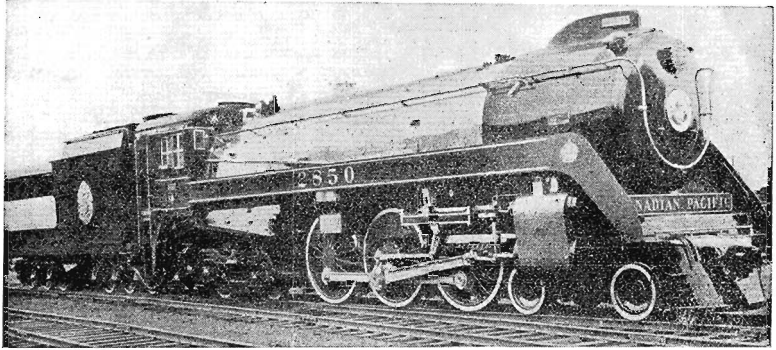
Nearing Level Crossings

Larger indicators of this type are used at termini to denote the limits of electric wiring over tracks, thus preventing trains over-shooting the overhead and getting "stranded."

Level crossings are all marked by white crosses placed at least $\frac{1}{4}$ -mile on each side of each level crossing. The reverse side is painted black. They serve as "whistle posts" for approaching trains.

Historic Loco. On Canadian Royal Train

SCHEDULED for the biggest job ever assigned to a steam locomotive, the Canadian Pacific Railway's locomotive 2850 hauled the Royal Train with Their Majesties the King and Queen on their 3,000-mile trip across Canada recently. Specially refitted and decorated for the occasion, this 4-6-4 type locomotive was a mass of shining stainless steel, royal blue, silver and gold. The general decorative scheme comprises a background of deep blue on the underframe, smokebox, front of engine and all marginal work on engine and tender. The sides of tender, cab and running boards are painted royal blue.



(Photo, courtesy Victorian Representative, Canadian Pacific Railway)

RAIL TRAVELLING TIMES HAVE BEEN REDUCED BY MORE THAN 700 HOURS A WEEK

OVER 700 hours a week saved! It sounds incredible, but actually that is how much has been cut off the running times of all passenger trains throughout the State. It is the result to date of the big campaign of train acceleration commenced early in 1934. The time-tables of all trains have been closely studied, and, wherever possible speeded up.

These accelerations have been made possible mainly by improvements to the locomotives. Also the strengthening of tracks has enabled trains to travel at greater speeds. The introduction of buffet cars on several lines has also helped to eliminate time-wasting stops for refreshments.

The improvements in the goods services have been no less remarkable. Special attention has been given to the transport of perishable commodities, the constant aim of the Department being to ensure the latest possible loading at country centres and the earliest possible arrival in Melbourne.

While you sleep, express freight trains are running through the night to reach the early morning markets in Melbourne. Vegetables that were many miles away when Melbourne went to bed may be served up on many a table next day.

This clockwork service goes on night after night in all weathers, and the vigilant train control system watches all these trains from the beginning to the conclusion of their journey, expediting their run where necessary to ensure that they reach their destinations without delay.

Bridge To Replace Level Crossing At Broadford

WORK on a new over-bridge to carry the Hume Highway over the North-Eastern main line at Broadford has recently been commenced by the Railways Construction Branch, in conjunction with the Country Roads Board.

When completed, the bridge will eliminate the present level crossing with its gates and protecting signals, enabling savings to be made both in working expenses and maintenance.

When opened for traffic, a potential danger spot on this busy main highway will be eliminated, and with it delays to both rail and road traffic.

BILL'S MAIL BAG IS BIG—AND INTERESTING, TOO!

BILL has had lots of interesting letters from members in his mail bag during the past month, including one from Bill Fullerton of Wangaratta who asked how fast "Spirit of Progress" travels through stations. Bill says that between Broadmeadows and Tallarook, 60 m.p.h. is permitted at most stations, except those on curves, when the maximum must not exceed the permissible rate of speed for the curve. At stations between Mangalore and Wodonga, where automatic staff exchanging is in force, the maximum is in most cases 60 m.p.h.

Bill Fullerton also asked whether "Spirit of Progress" carries an Electric Staff for each section. Bill says that this system of safeworking is in force over the 122 miles of single track between Mangalore and Albury, and that "Spirit of Progress" and certain other express trains

exchange staffs automatically as they pass through non-stop.

Bill also had a very interesting letter from Reg. Dyson of Footscray, who asked what were the canvas-covered fittings on the fronts of most of the older types of locomotives. Bill says that they are lifting jacks, which are provided to assist in re-railing the engine should it become derailed. They are fitted with canvas covers to protect them from the weather.

Reg. also asked the meaning of the five-pointed white star with a black circle at the ends of the platforms at Footscray. Bill says that these are provided at each end of all stations on the electrified lines as a guide to electric train Drivers running a full seven-car train. When the Driver's cab is opposite the star, he knows the whole train is at the platform. On the opposite page we describe these and other lineside symbols.

VICTORIAN RAILWAYS TAKE LEADING PART IN POPULARISING SKIING

THE recent arrival of two skiing experts from Europe to conduct skiing schools at Mt. Buffalo National Park and Mt. Hotham directs attention to the big part which the Railway Department has played in putting Victoria's snow resorts on the map. Each winter season since 1936, a noted Continental skiing teacher has been specially brought from Europe by the Department to conduct a skiing school at Mt. Buffalo National Park. Last year, for the first time, a similar school was held at Mt. Hotham. As a result, over 3,000 people have had the benefit of modern skiing instruction never previously available in Victoria.

Efficiency Is Keynote Of Rail Telephone Exchange

"WHAT time does the train for Tallyga-roopna leave?" "Has the umbrella I left in the train last night been found?" These and every other kind of question you can think of are fired at the telephonists on the Railways Exchange in the course of a day. And no matter how vague the question, these girls can always quickly connect the inquirer with the office that can supply the desired information.

Some of you have already inspected the Telephone Exchange, which is situated in the basement of the Administrative Offices at Spencer Street. The exchange actually consists of three rooms, the first room containing the motors and batteries on which the exchange depends for its power.

The second room contains two manual boards. The main board is to switch all calls from the postal network to railway extension numbers. This board is the go-between for the general public and the Departmental offices. Switch girls operate the board during the busy hours, and in the eight hours period between 9 a.m. and 5 p.m. an average of 2,500 calls come through.

Holiday Rush

Around about the Christmas and Easter holiday periods, this number is considerably increased. There are 1,000 automatic extension numbers to which these calls can be connected, and you can imagine how busy the girls are kept and how careful they have to be to ensure that callers get the right connections.

The second board in this room is an auxiliary service for the use of stations, signal-boxes and depots in the suburban area which are not connected by automatic telephone. All trunk line calls throughout the service are connected with this board.

In the third room is the exclusively automatic apparatus, which is the only one of its type in Australia. This system embraces Head Office, Spencer Street Station, Flinders Street Station and buildings, the Jolimont Workshops, Melbourne Yards and Goods Sheds, and all workshops and storehouses in the suburban area.

Air-Conditioned Rooms

Calls from suburban stations and country centres are connected with the automatic system in the same way as calls from the Postmaster-General's Department's lines.

The Exchange is air-conditioned and spotlessly clean and tidy. The efficiency and smooth working of this complicated mechanism is maintained by skilled mechanics who quickly locate and remedy any defects that may occur.

The Department conducts the comfortable modern Chalet at Mt. Buffalo National Park and the newly rebuilt "Hotham Heights" at Mt. Hotham. The latter house was destroyed by bush fires last January, but it was speedily reconstructed on the original site 6,000 feet above sea level. Outstanding accommodation and service are provided at both of these guest-houses.

A Snowline Representative of the Victorian Government Tourist Bureau is located at Harrierville. This experienced skier escorts, where required, all skiers travelling beyond Harrierville to "Hotham Heights."

In addition, the wide publicity which the Department has given to these and other Victorian Alpine resorts has been of great value to the State's tourist industry. The increasing popularity of skiing has, moreover, enabled the Department to build up tourist traffic at a time when the number of holiday-makers travelling would be expected to be below that of other seasons.

THREE-COURSE MEAL FOR 9d.

YOU'VE all heard the maxim "An army marches on its stomach." Well you might with equal truth say that a good workman is a well-fed workman. So you won't be surprised when I tell you about the excellent meals that are served at the Newport Workshops Dining Room.

As soon as the 12 o'clock whistle blows, men flock from every shed and in a few minutes they are seated in their allotted places in the Dining room. There is no waiting, for their soup is already on the table when they arrive and the other two courses follow quickly. By 12.30, nearly everyone has left the room.

How is this speed and efficiency attained? Well, tomorrow's menu is presented to the men today and orders are booked, the menu then going to the Manager for the preparation of the meat order and issue of supplies for the next day's meal.

The menu is constantly varied, so that the men never get the same meal two days running. And this excellent, quickly cooked three-course meal is available to the Workshops employes for 3/9 a week, i.e., 9d. a meal. Casuals are charged 10d. There is no attempt to make a profit out of the Room, which is run to provide good meals for the workmen at the cheapest possible price.

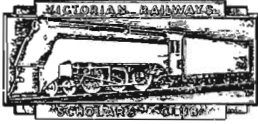
Special Trains For Racehorses

CLOSE attention is given by the Department to the transport of racehorses to and from race meetings held in the suburban area and just beyond. On the morning of race days, special trains, consisting usually of two electric motor coaches and a number of horse boxes, are run to the horses' training centres.

For instance, if the races are at Moonee Valley, two horse trains are run during the morning to pick up horses at Mordialloc, Mentone and Caulfield and carry them to Moonee Ponds.

It is not necessary for horses to wait until all the races are over before being transported back to their training quarters. Two specials are always available to enable the horses that have competed in the early races to be railed home immediately after the third or fourth race.

Wholly set up and printed in Australia at the Victorian Railways Printing Works, Laurens-street, North Melbourne, for the Publishers—The Victorian Railways Commissioners.



SCHOLARS' CLUB BULLETIN

September, 1939

No. 26

ENGINE WHISTLE CODES YOU SHOULD KNOW

PROBABLY no sound in industry is more widely-known than the locomotive whistle which originated a little more than a century ago following a collision at a level crossing between a train and a farmer's cart. Whilst the principal function of the locomotive whistle is to warn people of a train's approach, it is also useful as a means of communication.

Apart from the general sounding of the whistle when approaching stations or crossings, and as a warning to permanent way men, locomotive whistles are given in distinctive blasts known as "short," "long" and "crow," and these, singly or in combination, form the codes.

Certain whistle signals are in general use throughout the Victorian Railways and convey the same meaning everywhere throughout the system. For instance, a gang of track men hearing the driver of an approaching train whistle one short, one long, one short, would immediately understand that there was a fire in the vicinity of the track.

One long, three short, one long whistles are sounded prior to reducing the speed of ballast trains in which men are riding. When a driver of a train which has been stopped in a section is again ready to proceed, four long whistles are given to recall the guard if the latter be protecting the rear of the train.

In foggy weather, the "crow" whistle signal indicates to the guard that the engine crew have communicated with the signalman following detection at a home, starting or advanced starting signal. The "crow" whistle is so called because it is like a rooster crowing.

V.R. Apprentices Have Big Chances To Rise

FROM apprentice to Commissioner is not an impossible dream in the Victorian Railways. An apprentice entering the Department is given every facility to develop his latent talents, not only on the practical but on the theoretical side as well. The keystone of this policy is the Newport Technical College.

Here apprentices receive, as an essential part of their training, instructions in the principles underlying the actual tasks performed every day in the workshops. This instruction is free, and is given during hours of duty. The only expense which the apprentice incurs is for the provision of his books and drawing instruments.

On entering the Department, each apprentice is graded according to the educational standard he has reached and is drafted into a suitable class. The three-year technical course that he undergoes includes mathematics, geometrical and mechanical drawing, elementary science and applied mechanics.

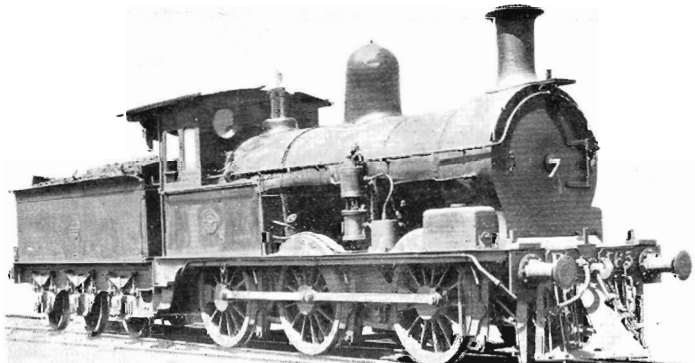
There are excellent opportunities in the Railways for the talented and industrious apprentice. Scholarships and prizes, also free places at the University or the Melbourne Technical College are open to him. Many an apprentice has gone on to the University to take the degree of Bachelor of Mechanical or Electrical Engineering.

Apprentices are eligible for promotion to higher professional and administrative appointments. The technical instruction imparted at the Newport Technical College is also available for Ballarat and Bendigo apprentices at the local Schools of Mines.

THIS LOCOMOTIVE STILL DOING GOOD WORK !

This month we illustrate a locomotive of class "Y," which has the 0-6-0 wheel arrangement. Although originally built for main line freight work it is now used in shunting and freight transfer service. Most of the "Y" class locomotives are now fitted with shunters' footboards on the sides.

They have two inside cylinders 18 in. x 26 in.; coupled wheels 54 in. in diameter; 175 lb. boiler pressure and develop 21,840 lb. tractive effort. The roadworthy weight of engine and tender is 74 tons; the boiler heating surface 1242 sq. ft.; the grate area 21 sq. ft. and the length overall is 48 ft. 1 1/2 in. The six-wheel tender carries 5 tons of coal and 2200 gallons of water.



A total of 56 locomotives of classes "Y" and "RY" (now all classed as "Y") were built by Kitson & Co. (England), the Phoenix Foundry Co. at Ballarat, and Robison Bros. of South Melbourne, between 1889-91.

SPECTACULAR RAILWAY EXHIBIT AT NEW YORK WORLD'S FAIR

YOU'VE all heard of the New York World's Fair, the largest international exposition in history, which opened on April 30 last and will continue until October 30. The Fair is actually a gigantic display of the most modern achievements in almost every branch of our day-to-day life. Sixty nations are represented in it.

The railway exhibit, sponsored by 27 American railroads, is literally a world's fair in itself. Covering 17 acres, it is the largest exhibit on the Fair site and embraces three main features: "Railways on Parade," in 16 scenes portraying the history of transportation from the stage-coach days; "Railways at Work," showing a complete railway, in model size, performing its every-day task, and "Building the Railway," the story of railway construction.

"RAILWAYS on Parade" is a real stage presentation in story, music and pageant of American transport history from covered-wagon days to the latest streamlined locomotives and *de luxe* trains. It is presented on an outdoor stage, 250 feet wide and 100 feet deep, and four performances are given daily. In actual settings and costumes of the periods the romantic story of American transportation is displayed, strikingly revealing the significance of the railroad as a factor in the spread of American civilization.

"Railways at Work" is housed in an auditorium of its own and is a huge model railway—167 feet in length and 40 feet in depth with 3,800 feet of track, 50 locomotives and 400 cars—showing the railway performing its day-to-day task.

In a scenic setting of mountain, valley, forest and river, more than 1,000 buildings have been constructed to represent cities, factories, railway stations and car shops. It is the largest model railway ever constructed, and performances are given hourly which run for 35 minutes.

A vast mountainous landscape offers a graphic picture of "Building the Railway." It shows, step by step, the way in which a railway is developed from the original clearing of the forest to the time when a fully equipped modern railway system is put in operation.

From a spiral ramp, built around the animated model, spectators follow, step by step, the various operations that go into the building of a railway. This exhibit occupies more than 10,000 square feet of space.

In addition to the three main features there

are track exhibits of the newest foreign and American trains and equipment. Famous historical locomotives, including the first locomotive to run in America in 1830, may be seen alongside the super models of today.

A new 473-ton steam locomotive—the largest of its kind ever built—operates under its own power on a roller bed. Great Britain has sent her crack flier, "The Coronation Scot," and Italy offers a complete *de luxe* electric train. There is also on view the greatest display of railway equipment ever assembled in World Fair history.

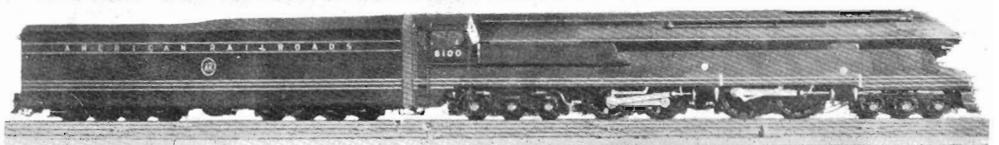
DEAR Members—Here we are again with a bumper issue of "The Bulletin!" I'm sure you'll all be interested in the story of the great railway exhibition at the New York World's Fair and the picture of the monster 473-ton locomotive. A man who was recently in New York told me that the railway exhibit is the most interesting one at the Fair, and I'm sure it's the first thing you'd go to see if you went there.

By the way, now that the wattle is making such a glorious show at places like Greensborough, Eltham, Diamond Creek, Wattleglen and Hurstbridge you should take advantage of the cheap Sunday fares to all these lovely places served by the electric trains. Remember that you can travel from anywhere to anywhere on the electric system for only 6d. return on Sundays. Too good to miss, isn't it?

Your pen pal,

Bill Smith

World's Biggest Steam Passenger Locomotive



THIS is a picture of the giant American locomotive at the New York World's Fair, referred to in the article on this page. It is the largest and heaviest steam passenger locomotive in the world. It is 140 feet long, weighs 473 tons with its immense tender, which is carried on 16 wheels. It is designed to haul a 1000-ton passenger train at 100 m.p.h. on level track. The locomotive is streamlined and has the 6-4-4-6 wheel arrangement. It has two pairs of

cylinders each driving independent groups of 4 driving wheels. The boiler pressure is 300 lb. per sq. in. and the driving wheels are 7 ft. in diameter. The tender carries 20,200 gallons of water and 23½ tons of coal and when fully loaded weighs over 200 tons! The giant locomotive was built at the Pennsylvania Railroad shops, leading American locomotive engineers and locomotive engineering firms co-operating.

Railwaymen On Branch Lines Are Important Links In Service

YOU know that there are over 600 different trades and professions in the Victorian Railways. Some of them you are more familiar with than others—for example, the drivers and firemen on the big locomotives. But there are many others, less under the notice of the general public, but who do just as big a job in their own quiet way. For instance, the guards and operating porters who take charge of many of the trains on our branch lines.

Practically all of these trains are "mixed trains," that is, trains consisting of both goods and passenger vehicles. So let us travel with them on one of their journeys. Passengers and mails and parcels for the branch line have arrived at the junction station in the main line train which has paused a moment, has rushed away and is soon lost to view in the distance.

The branch line train draws into the platform: with, perhaps, a dozen or more trucks of goods and livestock which arrived by a main line goods train, and a composite first and second-class passenger car and a van into which mails and parcels are loaded.

A Busy Day!

Meanwhile passengers hurry from the refreshment room and the guard comes out of the Stationmaster's office with a bundle of waybills in his hand, and when it is time for the train to start gives the "right away" and we are off. The guard and his assistant (a vanman) then get busy sorting waybills and checking tickets.

At each small wayside station parcels are unloaded and some taken on, and there is always a cheery word for the farmer or the local gangers' children along the track; maybe trucks to be put off or goods to be discharged out of a truck and mails and parcels delivered and signed for.

No hard work you might say—but that isn't all! At the terminus there is the day's shunting to

be done, trucks to be placed for local tradesmen and farmers and a hundred-and-one other little jobs that keep these men busy until departure time on the return trip, when even more work has to be done before the day is out.

Perhaps they are not much heard about, but they do a great service and do it well and cheerfully. Theirs is an excellent job of fostering co-operation between the public and the railways with benefits to both.

A BIG JOB?... YES— BUT EASILY DONE!

THERE was a busy scene at Yea railway station recently when 11,000 sheep were unloaded in one day. This is the biggest single consignment of sheep ever to reach Yea, and is believed to be the biggest ever handled by the Victorian Railways.

The sheep had been brought from the northern extremity of New South Wales to Tocumwal, and from there were conveyed to Yea by rail. Two special trains, consisting of 72 and 44 trucks, carried the sheep from Tocumwal to Seymour where each train was divided into two, thus making four separate trains for the run to Yea.

There was no confusion or congestion at any point of the long journey. It was another of those achievements in smooth transportation further illustrating the truth of the Department's claim that no transport task is beyond it.

28 Air-Conditioned Vehicles Now In Running On V.R. System

SINCE December, 1935, when the first air-conditioned car in the British Empire was placed in service between Melbourne and Albury, N.S.W., Victorian Railways patrons have been experiencing the benefits of air-conditioned travel. This great travel boon has been further extended until today there are 28 air-conditioned cars, including sitting, sleeping, dining and buffet cars, in constant use on the Victorian system.

As you can well imagine, a great deal of servicing is necessary to keep the air-conditioning equipment in sound working condition, and for this purpose the present buildings at the Train Lighting Depot, West Melbourne, are being considerably enlarged and modernized.

A new galvanized iron building with the interior walls and ceiling lined with fire-proof fibro-cement boards and with large windows and adequate ventilation assures space for a new battery charging room, battery repair shop, oil and acid stores, and a locker room for the staff provided with hot and cold water.

The existing fitters' shop and the store will be re-organized and extended to more than double their present size. The existing generator room is being enlarged to provide space for testing all air-conditioning equipment.

VICTORIAN RAILWAYS "ON AIR" AT THESE TIMES

- 3XY—7.0 a.m. and 10.0 p.m. Monday to Saturday (12 noon and 10.0 p.m. Sundays). News Session.
8.45 a.m. Monday to Saturday—Service information.
3.30 p.m. Monday to Saturday—Women's Session.
- 3AW—8.0-8.15 p.m. Tuesday, Wednesday and Thursday—Musical Session.
- 3KZ—8.0 a.m. Monday to Saturday—Service information.
7.15-7.30 p.m. Wednesday and Friday—Musical Session.
- 3UZ—8.15 a.m. Monday to Friday—Service information.
8.45-9.0 p.m. Tuesday and Friday—Musical Session.
- 3DB—7.45-7.55 p.m. Monday, Thursday and Saturday—Musical Session.

NEVER PULL "COMMUNICATION CORD" WITHOUT A GOOD REASON!

PROBABLY all of you have seen the "To Stop the Train" notice on the wall above the windows in every compartment of a country train and the small length of chain showing between the ends of two pipes above it and you may have wondered what happens when it is pulled . . . Of course if a passenger should operate the emergency "communication cord"—as it is called—without sufficient excuse, it would cost him £20 . . . For you see it is a safety device which must not be misused.

The communication cord has been fitted to passenger trains now for a great many years, though in the early days before the introduction of continuous brakes throughout the train, its function was slightly different—though it stopped the train just the same.

When the communication cord on a Victorian country train is operated by a passenger, it causes a small valve connected to the brake train pipe to open and let out some of the air pressure,

which causes a partial application of the brakes throughout the train, just as if they were to be applied by the Driver. The Driver at once notices this and brings the train quickly to a stand, after which he and the Guard must immediately ascertain the cause of the emergency stoppage.

After finding the cause of the stoppage, all that remains to be done is to reset the indicator at the end of the car, thus closing the air valve and permitting the brakes to be released from the engine prior to the resumption of the journey.

Trains are pulled up in this way by passengers for a variety of reasons—sickness, or because the train ran non-stop through the station where they had intended to get out, or sometimes even because they could not resist the temptation to pull the cord to "see what would happen." . . .

In the last case all that happened to them was the taking of their names and addresses and subsequently a fine of £20 for improper use of the safety devices without lawful excuse . . .

Private Sidings Serve Many Purposes

ALTHOUGH almost all of the railway lines in Victoria are part of the Victorian Railways system, some sidings are privately-owned.

This is a great convenience for industries located on railway lines, and the railways make special provision for firms wishing to establish works with private sidings.

The railways construct the sidings and the cost is borne by the owner who also must pay the railways for any shunting work performed by the Department in operating the siding. Quite often engines make special trips with loaded or empty trucks or to clear loading from private sidings located some distance from a station.

There are, however, not many private sidings with their own locomotives in Victoria, and as a result old engines, which are of no further use to the railways are rarely sold for this purpose. They are almost invariably scrapped.

Amongst the industries having their own sidings

are oil companies, brick works, sawmills, engineering works, quarries, lime kilns, flour mills, woollen mills and butter factories, etc.

The oil companies, in addition, own their oil tanks, which are fitted to special underframes supplied by the railways.

Some private sidings are large enough or handle so much traffic that they have their own shunting engines. One of these is in use at the Sunshine Harvester Works. It is an old "F" class 2-4-2 Tank locomotive, which was purchased from the Department in 1920, and is similar to the oldest engine on the Victorian Railways. At another siding a Diesel shunting engine is in operation.

IF YOU HAVEN'T WRITTEN TO BILL SMITH DO SO NOW—HE LIKES IT!

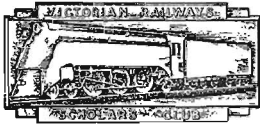
AMONG Bill's letters this month was one from Reg. Muir of North Carlton. Reg. asked where the electric energy for the electric headlights on the main line passenger and freight locomotives is stored and if it was kept constant by a generator on the locomotive or on one of the cars.

Bill says that the current is generated by a small steam-driven turbo-generator located on top of the firebox of the locomotive and controlled by a steam valve in the cab. The generator supplies current direct to the headlight; marker lights, cab and tail lights on the tender, and, in the case of the streamlined "S" class locomotives, the floodlights over the driving wheels as well. No storage battery is provided, but the generator adjusts itself to the varying load according to the number of lights burning.

L. Marshall Wood of Elwood, wanted to know

if there were any "T," "R" or "V" class locomotives still in service on the Victorian Railways. Bill replied that two "T" class and one "R" class 0-6-0 type locomotives are still in service and are employed in shunting service at either North Melbourne Locomotive Depot or at the Newport Power Station. They are specially provided with old "W" class tenders to enable them to negotiate the sharp curves in the yard at the latter place. There are no "V" class locomotives now in service; the last was withdrawn from traffic about 1926. They were formerly main line heavy freight locomotives of the 2-8-0 type.

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SCHOLARS' CLUB BULLETIN

October, 1939

No. 27

Railways Are People's Property

YOU MUST PROTECT THEM!

NOT long ago, while a train was travelling between Macleod and Rosanna on the Hurstbridge line, a golf ball shattered the window of one of the carriages. At first it was thought that the ball had been hit from the neighbouring golf links, but inquiries disclosed that nobody had been playing on the course at the time—in fact, it was quite dark when the incident occurred—and the only conclusion that could be formed was that it was a deliberate act.

This is only one example of a very silly and dangerous practice, and although a golf ball is a comparatively rare missile, the habit of throwing stones at passing trains is unfortunately only too common. Therefore we are appealing to you, the members of the Scholars' Club, to co-operate with the Railways Commissioners in suppressing this practice. Sometimes you may find yourself in the company of boys who think it a good joke to hurl stones at passing trains, and we feel sure that you, as loyal railway enthusiasts, will do your utmost to restrain them.

You will realize that stones thrown in this way are not only dangerous to people who may be in the passing train, but they also damage railway property—which is the people's property.

Taxpayers' Interest

Your parents, as taxpayers of the community, are contributing their share towards the upkeep of the railways. You, in your turn, will one day be called upon to pay your share. So, even from a selfish point of view, you can see how it is to your interest that railway property should be protected.

This applies in other ways too. For instance, in the matter of keeping your feet off the seats in railway carriages, and obeying all the by-laws which the Department has established for your safety and the proper care of railway property. I feel sure that the Commissioners can count on the support of all members of the Scholars' Club in carrying out these regulations.

Railways Unrivalled In Mass Transport

IF there is one sphere in which the railways outclass all other methods of transport it is in mass transportation—the carriage in a minimum of time and with the maximum of efficiency of large numbers of people or large quantities of goods or live stock from one place to another.

This is the time of the year when the truth of this claim is amply established. For instance, during the nine days of the Royal Show last year, the railways carried 187,000 passengers to the Showgrounds. Soon the famous Melbourne Cup will be run and on this day the railways perform one of their biggest transport tasks, carrying 50,000 passengers to Flemington and—an amazing feat—50,000 back to the city within ONE HOUR of the finish of the meeting.

One of the proudest feats of the Department was performed on the Melbourne Centenary Holiday, October 18, 1934, when over one million passenger journeys were made on the suburban electrified system on the one day.

On the goods side the figures are no less impressive. Here are a few examples of big consignments carried in ONE DAY—184,000 sheep to the Melbourne market, 200,000 bags of wheat to the seaboard, and 7,000 tons of superphosphate to the country.

SEND ALL YOUR PARCELS THIS WAY!



Here is one of the five "CM" type electric parcels coaches which run on electrified lines to relieve the ordinary suburban passenger trains of parcels traffic. They run to regular schedules on almost all suburban lines providing fast parcels service independent of ordinary passenger train services. The cars have similar electrical equipment to suburban electric motor coaches. There are four traction motors, each of 140 H.P., and there is a driving compartment at either end. They are 59 ft. 9 ins. in length over buffers and 9 ft. 6 ins. in width, and can carry a maximum load of 10 tons. One of the cars is equipped with a central raised cupola lookout for inspection of overhead contact wires. These parcels coaches were built at the Newport Workshops between 1921-26.

ROLLING STOCK CONSTRUCTION PROGRAM FOR THIS YEAR IS A VARIED ONE

WE have been asked what the Victorian Railways are doing at present in the way of rolling stock construction, so I propose to tell you briefly what the program is for the current financial year (that is, the year ending June 30, 1940). Unfortunately, owing to a shortage of funds, we are unable to undertake as extensive a program as we would like to, but there will still be quite a lot of activity in our workshops.

PERHAPS the most interesting piece of work that will emerge from the shops this year will be the first of three "H" class 4-8-4 type streamline passenger locomotives which will be the largest, heaviest and most powerful on the Victorian Railways system.

They will have three cylinders each 21½ ins. x 28 ins., driving wheels 5 ft. 6 ins. in diameter and a boiler pressure of 220 lb. The tractive effort will be 55,000 lb. and the roadworthy weight of engine and tender 261 tons, of which 92 tons will be on the coupled wheels. These locomotives will be capable of hauling 550-ton trains up long banks at a minimum speed of 20 miles per hour.

Fifteen more "K" class 2-8-0 type light line mixed traffic locomotives will also be constructed. These locomotives have two outside cylinders

VICTORIAN RAILWAYS 85 LAST MONTH

LAST month the Victorian Railways celebrated their 85th birthday. On September 13, 1854, an auspicious day in Victoria's history, the first railway line in the State—from Flinders Street to Port Melbourne (then known as Sandridge)—was opened. Try to picture the scene on that momentous occasion. The "locomotive" that hauled the four carriages was in reality an improvised tractor consisting of a stationary engine mounted on a railway truck. The two engines ordered from England did not arrive in time for the opening ceremony.

The leading citizens who travelled on the train were top-hatted and bewhiskered, and a band played stirring music as the train crawled past the quaint little stations on the line. And so the Victorian Railways were born. Now look at the service as it is today—giant locomotives, the streamlined, air-conditioned "Spirit of Progress" running at 70 m.p.h., air-conditioned buffet cars, nearly 5,000 miles of tracks. Truly a magnificent example of sustained endeavour, which has contributed immensely to the progress of the State.

20 ins. x 26 ins., coupled wheels 4 ft. 6 ins. in diameter, and a boiler pressure of 175 lb. At least 10 will have all-steel boilers; the others retaining the use of copper fireboxes as at present. The tractive power at 80 per cent. boiler pressure is 25,960 lb. and the roadworthy weight of engine and tender is 105 tons, of which 53 tons is on the coupled wheels. A number of improvements in design and equipment will be incorporated in the new locomotives.

The program also provides for the conversion of two first-class "AE" type cars to air-conditioned composite buffet-and-passenger cars, similar to the original "Taggerty" buffet car placed in service on the Bendigo line in April, 1937. The cars will be named "Kiewa" and "Moyne"—after Victorian rivers. Six additional air-conditioned country passenger cars (three each of first and second-class) will be completed. They will be constructed of Cor-ten steel and will be streamlined after the manner of the cars of "Spirit of Progress"—Australia's finest train now running between Melbourne and Albury.

Springtime Is Weed Time

ONE of the problems that confront the railways' track staff is the eradication of weeds, which flourish even in that most unlikely of places, the metal ballast along railway tracks. During spring and early summer, the track forces declare war on the weeds, for if they are left to flourish, they prevent proper drainage thus causing defects in the track when the succeeding wet winter months set in.

A good deal of weeding is done by hand, but in certain areas this method is too slow and expensive, particularly when it is remembered that there are almost 5,000 miles of tracks in Victoria. Treatment by weed eradicator is therefore undertaken. One application per year is normally sufficient.

Weed eradicators of arsenite or chlorates are both used. The weed killer is mixed by the ganger or repairers and carried in iron tanks loaded on to hand trolleys which are slowly propelled along the track as the liquid is sprayed through hoses. This is the method usually employed in Victoria.

On some other railways, mechanically driven weed-killing plants are employed, usually where distances are great or where the weeds grow thickly. The Southern Railway of England has a complete weed-killing train composed of old locomotive tenders fitted with spraying apparatus and which are hauled by a locomotive. Introduced in 1937, this train has since sprayed over 3,000 miles of track at an average of from 70 to 90 miles per day. A permanent graphical record of the sections of track sprayed is made by means of an ingenious mechanical recording machine.

DEAR MEMBERS—I'm pleased to say that during the past month I've received more letters from members than in any other month since the Bulletin started. That's the way it should be, because it shows me that you are taking a keen interest in the most fascinating business of all—the railway business. Keep it up, for I like answering your letters.

By the way, I have a special message for our New Zealand readers. Vera Downie of 19 Freyer Street, North Williamstown, would like to correspond with a pen pal in New Zealand.

Here's hoping you all enjoy your Bulletin this month. I'm sure you will.

Your Pen Pal,

Bill Smith

Travellers' Aid Society Performs Valuable Work At City Railway Stations

A GIRL of 15 arrived at Spencer Street one day from Perth. She had no relatives in Melbourne but had arranged to meet a lady who was a friend of her family and with whom she was to stay. But the lady in question did not arrive at the station until 24 hours after the train reached Melbourne. The reason was that she did not know that the railways had speeded up their transcontinental run, cutting one day off the journey from Perth. To make matters worse the girl did not know the lady's address.

AUTO. COUPLERS HELP EFFICIENCY

THE gradual conversion of all existing passenger and goods rolling stock, locomotives and tenders and the fitting of all newly-built equipment with automatic couplers, has been proceeding steadily since 1926. Automatic couplers, as their name implies have a great many advantages over other types.

The conversion of rolling stock to automatic couplers has now advanced to such a stage that 78 per cent. of the goods rolling stock, 25 per cent. of the passenger rolling stock and 57 per cent. of the locomotives and tenders have been fitted. When the program is completed, a large sum of money per annum will be saved in maintenance costs and by increased train operating efficiency.

Automatic couplers greatly increase shunting efficiency, as considerably more trucks can be handled per hour. As a result, goods train loads have grown larger with consequent benefit and saving in operating costs. Safety too—both for the staff and the travelling public—has been increased. The shunting staff, particularly, appreciate the fact that automatic couplers remove the necessity for passing between or under buffers of trucks or cars until coupling is completed. The only operation then necessary is the coupling of the air-brake hoses.

What might have been a distressing situation for both of them was averted by the Travellers' Aid Society, one of whose representatives arranged accommodation for the girl, contacted the lady next day, and gave her the girl's address.

Countless similar cases of travellers in distress are handled by the Society in the course of its work, and this month I propose to tell you a little of the service it performs.

The Travellers' Aid Society has offices on the concourse at Spencer Street and No. 1 Platform, Flinders Street. Representatives of the Society meet every country train—last year they met 8,262 trains—and keep an alert eye for travellers who need assistance. It is fairly easy, you know, to pick out people with that lost look.

The people who need help fall into several classes—children travelling alone, boys and girls who have run away from home, old people, people with some physical disability, foreigners who cannot speak our language and many others.

Some of these unfortunates are referred to the Society by railway employes (in this regard the Stewardess on "Spirit of Progress" and the Man-in-Grey co-operate splendidly with the Society), many are approached by the Society's representatives, and the great majority applies personally at the office of the Society.

And how do the representatives of the Travellers' Aid Society assist these people? Some receive lodging at the Society's hostel, some are given emergency relief, many are connected with friends or relatives, whilst some are placed on their train. The Society, in short, helps in countless ways, and has become an important service at our great terminal stations.

Don't Miss Bill Smith's Replies To Letters

BILL was simply deluged with letters last month, but the more he gets the better he likes it. G. Sanders, of Box Hill, asked quite a string of questions and here are the answers Bill gave him:

The highest speed reached by "Spirit of Progress" in service is restricted to 70 m.p.h. The time taken to run from Melbourne to Albury by this train is 3 hours and 50 minutes (230 minutes for the 190½ miles), which gives an average speed of 49.7 m.p.h. From Albury to Melbourne, with more favourable grades, the time is 3 hours and 35 minutes (215 minutes at an average speed of 53.2 m.p.h.).

The tractive power (that is the pull exerted by the locomotive on the train) of an "X" class locomotive is 48,360 lb. at 85 per cent. of the boiler pressure. This figure includes the tractive effort developed by the auxiliary booster engine at starting. Without the booster engine, the tractive power is 39,360 lb.

Each electric suburban seven-car train has three motor cars each provided with four traction motors of 140 horsepower. Thus the total

horsepower of each train is 1,680 horsepower.

As their name implies, the motors of the petrol-electric rail motors operate on ordinary petrol. They develop 220 horsepower and drive two 110 horsepower electric traction motors. Some of the smaller rail motors are equipped with compression ignition (diesel) engines, which, of course, operate on fuel oil.

In answer to a letter from S. Capper, of Balwyn, Bill said:

The Geelong line between South Newport Junction and North Geelong "A" Signal-box is a single line worked under what is termed Absolute-Permissive Block rules (Automatic Signalling). This system eliminates the need for electric or other staff working as the signals controlling the entrance into each section of track between crossing loops are so arranged that only one at each end of each section can exhibit a "clear" indication at once, and in the event of the section being unoccupied, to permit of a train being signalled from either direction required.

We shall tell you something more about this system shortly in the Bulletin.

TRAIN DISCS AND LIGHTS ALL HAVE DEFINITE MEANING FOR SIGNALMEN

HAVE you ever wondered how the Signalmen distinguish the destination of fast-moving electric suburban trains, especially at night and during the busy peak hours? Well, it is very simple. Each train on each line carries distinguishing identification discs by day and groups of lights by night.

By the different combinations of lights, each and every line in the suburban area is indicated, while by day the arrangement of red or black bars and crosses on metal discs serve the same purpose. By day, special trains, such as race trains, are numbered as well.

For example, by day a train between Flinders Street and Frankston carries a disc with two parallel red horizontal bars over the left side buffer, and by night white lights in the right-hand and centre roof positions as well as in the lower position beside the headlight. There are altogether twenty headlight and disc signal combinations carried by electric trains.

In addition, every steam or electric train running on a main line or branch line must carry on the rear of the last vehicle the regulation white tail disc by day and a red tail light by night. By this arrangement the Signalman knows that the train has arrived complete.

During darkness, each electric train also carries two red lights at the rear, in reality the two small outside top lights fitted with red slides. These lights are known as side lights. In the case of steam trains each side light shows a white light towards the front of the train so that the Driver can see that the whole of the train is following.

Light Indications

If you look at the front of each suburban electric train, you will see that there are four small lights, one on each side and one in the centre of the roof, and another just to one side and above the electric headlight.

The Signalmen know these head signals off by heart and consequently they know exactly which route to signal for each train. This is particularly helpful on lines where automatic signalling is in force.

In daylight, it may be the Signalmen are depending on the distinguishing head signals alone to indicate the destination of each train, whilst at night the combination of lights enables the trains to be identified long before the illuminated destination sign is readable.

Prize-winning Essay On Rail History

WE here publish the essay which won first prize at the Camberwell Central School Bazaar which was held recently. The essay is by Carol Dusting and we congratulate her on her excellent little summary of the beginnings and development of railways. It reads:—

THE progress of railways has been very gradual, beginning as far back as 1550 with primitive coal wagons. No one thought then that this humble beginning would produce such amazing results as we know it has done.

Four centuries ago, in the English coal mines, men were using wooden wagons drawn by horse traction, to carry coal from the mines to the River Tyne. In winter, this method often failed for the roads to and from the mines were in a bad condition and the coal wagons were often bogged, and this delayed the transport. So the miners laid pieces of wood, and later planks, in the ruts for the wagons to run on, but these soon wore away. So the wooden, improvised rails were placed on sleepers. Finally, iron rails were made with a flange to prevent the wheels from slipping from the rails.

In 1813, William Hedley invented the famous "Puffing Billy" to haul coal wagons. This was one of the first steps towards the modern train.

A year later, George Stephenson made his first engine, the "Blucher." It surprised everyone by drawing a train of eight carriages, and travelling at four miles an hour up an incline.

Then, in September, 1825, the first railway was opened, the Stockton and Darlington railway. This was 38 miles long, and the engine of the train drew 34 carriages and trucks at 10 to 12 miles an hour; but this was not like the trains we know. The carriages had no seats, and were little more than open boxes. On the next train a great improvement was made. This was the "Stephenson Rocket," the first highspeed locomotive, which ran from Manchester to Liverpool. It was a great success.

Two hundred years later, iron tramways were in use for fifty years, but it was thought that these would be unable to compete with horse traction or artificial canal transport. Steam locomotives had been tried also, but this experiment was found too expensive to use often, for hauling purposes.

Since then trains have improved immensely. Now we have streamlined fast trains which have every possible comfort for our use. But now motor transport is becoming faster and easier, and many think that the train transport of goods will give place to the road. But the train is such a valuable asset to the country and townspeople, that it will take more than increasing motor transport to take its place.

HOW V. R. STATIONS WERE NAMED

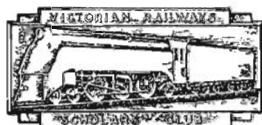
HAVE you ever wondered how the hundreds of stations on the Victorian Railway system came to be called by the names by which they are now known? Many an interesting story is suggested by these names, some being chosen in honour of the pioneers who first settled in the district, some being called after places in the old world, whilst many have an aboriginal origin. In this issue of the Bulletin we commence a series of these place names, explaining the history of some of the most interesting of them each month.

JOLIMONT, the suburban station near the Melbourne Cricket Ground, was named by the Swiss wife of C. J. Latrobe (Superintendent of Port Phillip, 1839-1851, and Lieutenant-Governor of Victoria, 1851-1854). The name was first given to the little hill upon which their home was built. Mrs. Latrobe named the place after her home in Switzerland.

YARRAWONGA is formed of two aboriginal words, and means "where the 'wonga' or cormorant, builds in the tall gums."

SEA LAKE. The name was given to the lake because of its unusual depth among Mallee lakes. There is a story that a "bullocky" riding in search of his team came upon this strange sheet of water and expecting it to be, as usual in such swamps, a foot or two in depth, urged his horse across it. A few steps and the water was up to the saddle, for the lake is about 13 feet deep. Out he scrambled in great alarm and rode back to the camp crying out that he had found a lake as deep as the sea—a Sea Lake.

Wholly set up and printed in Australia at the Victorian Railways Printing Works, Laurens-street, North Melbourne, for the Publishers—The Victorian Railways Commissioners.



SCHOLARS' CLUB BULLETIN

November, 1939

No. 28

Royal Show Emphasized Vital Link Between Railways And Rural Industries

I SUPPOSE that most of you went to the Royal Show and saw the impressive display of the wealth of Victoria. But how many of you realize the great importance of your railways in making this wealth available to the community, in carrying produce from the rural centres to the seaboard for export and in conveying essential commodities from the metropolis to the farmers ?

This month, I propose to tell you a little of the service which the railways are performing for the man on the land. In recent years acceleration of goods services has been the constant aim of the Department, with the result that the majority of farmers, graziers and fruit growers are assured of much later loading times than formerly and much earlier arrival times in the metropolis. You will appreciate how important this is in the case of perishable commodities and live stock.

Last month, I told you something of the large consignments of goods and live stock that have become commonplace transport tasks to the railways.

Aid In Other Ways

But it is not only in the provision of fast, safe service that the railways help the man on the land. Bearing in mind that increased prosperity in the country means greater railway revenue, the Railways publicity department issues widespread publicity to stimulate the consumption of primary produce. Posters and recipe booklets issued during the last year materially stimulated the demand for fruit, in which the Department's fruit juice drink stalls also played a prominent part.

The dairying industry was assisted by the issue of a pictorial poster and a milk recipes booklet, also by the consumption of 121,130 gallons of milk in the Department's refreshment rooms. At the request of the Australian Meat Board, posters and leaflets emphasizing the urgent necessity for the careful handling of lambs and pigs were given widespread distribution.

Young Farmers' Work

Knowing how much he has to do with the man on the land, good railwaymen must necessarily take a keen interest in all country activities. I suppose that is why I was so interested in the Young Farmers' exhibit at the Royal Show. Did you see it ? As you probably know, Young Farmers' Clubs are affiliated with many schools throughout the country, and they are doing great work in giving the farmers of tomorrow a scientific outlook on their work.

The exhibit at the Show included drawing and craft work, farm carpentry, grafting and budding, grass cultivation and almost every phase of farm life. It was an eloquent tribute to the Young Farmer movement.

TESTING LABORATORY DOES VARIED WORK

WHEN you consider that the Railways' shopping bill is over £2,000,000 a year, you will readily appreciate how necessary it is that they should get full value for their money. To ensure this is the task of the Testing Laboratory at the Newport Workshops. Actually the staff at the Testing Laboratory performs a twofold function, examining materials to discover their actual quality and carrying on research work in the most scientific aspects of railroading.

The materials tested at the Laboratory are many and varied, ranging from huge steel castings to gas mantles, and including fuels and lubricants, paints, varnishes, soaps and disinfectants.

It is interesting to note that, in addition to conducting tests to ensure that materials conform to sample, the experts at the Laboratory test the original samples submitted with the tenders before the contracts are let. In this way, the relative merits of the various goods offered are considered in conjunction with the prices quoted.

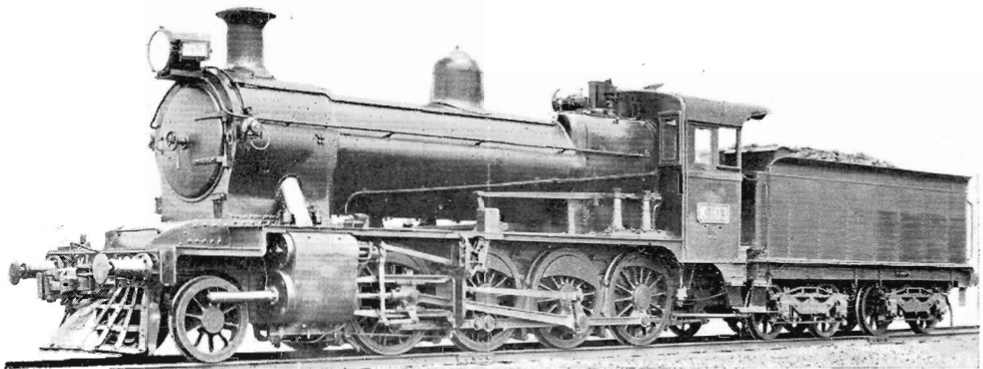
The Laboratory works in close co-operation with the workshops authorities. Test officers keep closely in touch with the foundry, the forge and the blacksmith's shop.

V.R. Apprentices Have Big Chance To Advance

A COUPLE of months ago, I told you something of the opportunities for apprentices in the railways. Recently, a party of 20 Victorian apprentices, selected for their outstanding work, made a special tour of the principal engineering activities of the New South Wales Railways. Last year, a similar party of New South Wales apprentices were the guests of the Victorian Railways.

These tours are conducted in accordance with a reciprocal arrangement between the two Departments, whereby each system sends parties of apprentices to the other's State in alternate years. Judging by the comments of the boys who took part in the recent tour, these tours do a great deal to broaden the outlook and round off the education of those who take part in them.

MORE OF THESE LOCOS. BEING BUILT THIS YEAR



HERE is a picture of a "K" class locomotive which we mentioned last month. Fifteen of these locomotives are listed for construction in this year's rolling stock program. They are used for mixed traffic service and have the 2-8-0 wheel arrangement. They have two cylinders 20 ins. x 26 ins.; driving wheels 54 ins. diameter; a boiler pressure of 175 lb. per sq. in.; heating surface, firebox 125 sq. ft.; tubes 1,322 sq. ft.; total evaporative 1,447 sq. ft.; Super-heater 281 sq. ft.; grate area 25.75 sq. ft. Tractive power at 80 per cent. boiler pressure is 26,960 lb. Length overall is 60 ft. 3 ins. Wheelbase, rigid 15 ft. 6 ins., total 50 ft. 2½ ins. Adhesive weight 53 tons 2 cwt. Total weight roadworthy 104 tons 12 cwt. Tender capacity 4,300 gallons of water and 5 tons of coal.

Strange Reasons For Train Delays

IT'S hard to believe that a few ants could hold up a seven-car electric train, but that is what actually happened once to a special train bound for Flemington Racecourse.

The train was halted at an automatic signal showing at "danger." All attempts at moving the signal proved in vain, until investigation showed that ants had entered through two 1/16th inch holes in the steel casing surrounding the sensitive track relay mechanism, and were swarming between the relay contacts. While the ants were thus busily engaged, the signal could not, of course, be moved from the "danger" position.

On another occasion an elephant figured in an unusual disturbance of the electric suburban system. This is what happened. The circuit breakers "opened" at Caulfield Sub-station, and immediately a fault was recorded in the 20,000 volt. underground cable "somewhere between Jolimont and Caulfield." The cable's 6½ mile course is underneath parks and streets and over the Yarra River.

The ingenious fault-localizer, which is part of the Electrical Branch's equipment, was connected to the cable at the Jolimont end, and quickly recorded that the fault was 306 feet distant. Precisely at that distance it was discovered that a huge iron bar had been driven into the ground to tether an elephant who was part of the entertainment at "Joyland." The bar had penetrated the 20,000 volt. cable—a mere three inches in diameter—and although barely touching the conductor inside, had caused a leakage of current.

Nesting time for magpies is always a period of great concern for the overhead staff. Wire forms the basis of their nests, and a piece of wire dropped over a "live" part of the overhead equipment can cause a lot of trouble. Unfortunately, railway overhead equipment seems to have a deep fascination for magpies. In one instance, a magpie dropped a small piece of wire on the overhead near Macleod, causing portions of the 1,500 volt. equipment to be burnt out and holding up traffic on that part of the line for nearly two hours.

Evidently, repenting of the trouble it had caused, the magpie returned later and heroically annihilated itself on a 20,000 volt. section of the equipment.

RAIL PUBLICITY HELPS IN FIGHTING BUSH FIRES

A LEAFLET recently issued by the Victorian Railways and widely distributed among country people drew attention to the need for making firebreaks now. For some years the Department has conducted a similar publicity campaign. The Department especially asks the co-operation of landowners whose properties adjoin railway tracks. This request is made as part of the endeavour to avoid a recurrence of the disastrous bushfires which last summer caused considerable loss of life and property, including much damage to railway property.

The railways take elaborate precautions to guard against bushfires. Locomotives are equipped with the most efficient spark and ash arresters. Enginemen also keep a constant watch for indications of fires adjoining railway land, and report such outbreaks at the nearest station.

The Department also takes considerable precautions in the matter of burning off. Before grass on railway land is dry enough to burn, a strip at least three feet wide is removed either by chipping or ploughing inside each boundary. Then, subject to weather conditions, the patches of dry grass are burned off.

To make burning off absolutely safe where trees, shrubs and hedges are growing either inside or outside railway land, extra strips are cleared.

Medical Division Is "Watchdog" Of Victorian Railways Service

THE railway team is like a football team in one respect at least—only the fit may play. Hence the importance of the Railways' Medical Division, which sees that the members of the staff are up to the required physical standard to do their jobs well and safely. You may have noticed the headquarters of the R.M.O.—as the Railways' Medical Officer is known—at Spencer Street station. It is on your right as you emerge from the suburban ticket barriers.

Three doctors comprise the medical staff. They have to examine the physical condition of all applicants for employment, also their vision, colour sense and hearing. The examination of employes after injury or illness to determine their fitness to resume duty is another medical job. The doctors must further conduct periodical tests which are compulsory for employes engaged in safeworking (engine drivers, firemen, signalmen, etc.).

Some idea of the volume of the work performed by this division may be gained from the figures for the last financial year. During that time 29,643 examinations were conducted, of which 19,294 related to physical capacity and 10,349 to vision, colour sense and hearing. To obviate the expense and inconvenience of bringing employes to Melbourne a large number of examinations was conducted at various country centres.

This country tour has been an annual event for many years, but last year the doctor and his staff had the advantage of a greatly improved medical car.

This car was converted from the former dining car "Wimmera," and is equipped with electric light, electric fans and gas heaters. The car is 71 feet over body, and 9 feet 6 inches wide, and at one end there are a doctor's cabin, a physical examination room, a dressing room seating six persons, and a central waiting room with seats for 10 persons. At the other end of the car a vision testing room with dark room is provided.

DEAR Members.—I must tell you about the wonderful holiday I've just had at Mt. Buffalo National Park. I like to get away from driving an engine once in a while, and that is certainly the ideal place for a spring holiday—glorious mountain air, beautiful views of the neighbouring mountains and valleys, plenty of recreation and the outstanding comfort of The Chalet. Besides, the rates have been greatly reduced for the spring season, and you can now have an 8-day holiday there for only £5/19/6d., covering all travel and accommodation costs. These rates will be available until December 16.

The tariff at the neighbouring Alpine resort of Mt. Hotham has also been reduced from 15/- a day to 12/- a day. These rates will be available until June 30 next year (Xmas and Easter periods excepted).

Tell your parents about the splendid opportunities for healthful spring holidays at moderate cost at Victoria's grand Alpine resorts.

Your pen pal,

Bill Smith

DEPARTMENT ENCOURAGES NEATNESS EVERYWHERE

EVERY railwayman is expected, as a normal part of the job, to keep the place where he works neat and tidy, but a great deal of purely voluntary work is undertaken by railwaymen throughout the State to make railway premises more attractive.

To encourage this spirit, various competitions are conducted every year and are eagerly contested. Prizes are awarded for tree-planting, station and depot decoration, and for the best-kept Departmental residences. Possibly, when you have been riding in the train, you have seen evidences of the keen interest which railwaymen take in these competitions.

One gatekeeper who retired recently had the proud record of having the best-kept Departmental garden for 15 successive years.

To encourage neatness by the track staff, prizes are also awarded for the best-kept length of track in each district. The policy of railway beautification serves a twofold purpose, as men usually work better in pleasant surroundings and the public appreciates, even though unconsciously, a service which emphasizes the value of appearances.

40,000 Suggestions From Victorian Railwaymen

PROGRESS is the watchword of the Victorian Railways, but it is not the exclusive province of any one trade or position. Acting on the principle that a man knows more about his own job than most other people, the Commissioners have for many years enlisted the co-operation of the entire railway staff in improving the service.

Suggestions are invited from every railwayman for promoting greater economy and efficiency. All suggestions are treated as confidential and are thoroughly investigated by experts. If they are adopted, a monetary award, in keeping with the value of the suggestion, is paid to the suggestor.

Special facilities are accorded to inventors in the way of patent rights to safeguard their interests.

Since the system was introduced over 18 years ago, more than 40,000 suggestions have been received, covering every phase of railway operation—mechanical, electrical, clerical, etc. Of these, approximately one in six has been adopted.

MEMBER ASKS INTERESTING QUESTION ABOUT "SPIRIT OF PROGRESS"

AMONG the letters which Bill received in the last month was one from K. Vivian, of Oakleigh. He asked a question which many of you must have often pondered: How does a train like "Spirit of Progress" negotiate a curve when the ends of carriages are built to appear all one? Bill replied that the ends of the cars of "Spirit of Progress" are fitted with hinged closures or sheaths in order to eliminate the gaps between the car ends, thus reducing wind resistance to the train in motion and enabling an unbroken passage between the cars.

By means of springs and suspension at three points, these closures act similarly to huge buffers, that is, they may be compressed or expand, thus giving the effect of an unbroken surface even when the train is traversing comparatively sharp curves.

Master Vivian also asked why steam is released from somewhere underneath the front of a steam engine when it is going to move. Bill pointed out that when a steam locomotive has been standing for a period, such as at a station, a certain amount of condensation occurs in the cylinders forming water.

By operating the cylinder cocks provided to drain water from the cylinders, when steam is first admitted to start the engine moving, the water is blown out through the cocks. This is necessary because water cannot be compressed and if a sufficient quantity accumulated in the cylinders, damage might be caused. The cylinder cocks are controlled from a lever in the engine cab.

Everett Taylor, of Carrum, wanted to know the method of denoting the passage of trains over track-circuited lines by means of illuminated track diagrams at certain signal-boxes, such as at South Yarra. Bill explained that the various small lights in the diagram are connected with insulated sections of track corresponding to the sections shown on the diagram.

When a train enters the section it completes a circuit across the two running rails causing current to flow through relays which extinguish the particular lamp or lamps until such time as the train enters the next section when the original circuit is restored.

Sand On Rails Is Great Help To Locomotives

IF you were to ask a railway trackman in the Mallee what he thought of the value of sand on railway lines he would probably not give you a very civil answer, for he has to devote a lot of his time during the summer months to clearing sand drifts from the track. If, on the other hand, you were to ask a locomotive driver for his opinion on the same subject, he would tell you that sand is one of his greatest allies and he would not be without it.

For approximately one thousand tons of sand are deliberately and carefully spread on the steel rails of the Victorian railway track every year. Sand is regularly carried on locomotives to assist in starting with heavy loads when the rails are frosty or greasy.

It is fed through pipes from special containers on to the rails in advance of the leading pair of driving wheels to provide sufficient friction between wheel and rail.

The sanding gear is duplicated on electric locomotives as they are driven from either end, and the sand must, of course, be fed to the rails ahead of the driving wheels when the locomotive is travelling in either direction.

It is essential that the sand be coarse, gritty and clean. It must be perfectly dry also, as damp sand clogs in the pipes and will not run, rendering the sanding gear useless until it has been cleared.

V.R. Has Impressive Safety Record

SAFE, fast and dependable" is a slogan expressing the three indispensable qualities of any railway system, and the first of these is safety. It is the proud boast of your Victorian Railways that they have carried 1,400,000,000 passengers in ten years without a single fatality due to a train accident. How has this remarkable record been achieved?

An impressive safety record is due to many factors—the use of the best materials in all rolling stock, minute examinations and periodical overhaul of all equipment, careful attention to tracks, a smoothly-functioning signalling system, rigid safeworking rules And, most important of all, a staff thoroughly and continually educated in the rules and maxims of safety.

The best rules and precautions would be of little avail if the staff did not possess a highly trained safety sense. Not only are all men connected with train running fully instructed in the details of their jobs, but all employees of the railways—even clerks, cleaners and waitresses—are imbued with the idea of "Safety first—and always."

One important method of inducing this frame of mind is the display in prominent positions in workshops, depots and offices of the posters issued by the National Safety Councils of Australia, and U.S.A. These posters are constant reminders of dangers lurking in the daily job and they do a lot to check carelessness.

Some of the messages contained in these posters are very terse and witty. For instance, one displayed recently in the Head Office at Spencer Street advised: "Put more backbone and less wishbone into safety." An American poster says grimly: "A crutch will support a cripple, but it won't support his family."

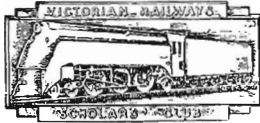
NAMING OF RAIL STATIONS

ST. KILDA was named by Lieutenant-Governor Latrobe after a small vessel called "The Lady of St. Kilda," which was wrecked near the Red Bluff (now known as Point Ormond). The yacht was probably named after St. Kilda, a small island on the west coast of Scotland.

ASPENDALE. Seeing that this is the racing season par excellence, it is fitting that we should include this name, which was originally given to the racecourse there, after a well-known mare of the time named "Aspen." The settlement which grew around the locality took the name of the course.

BERRIWILLOCK is formed from two native words. A shrub flourished there which grew small fruit or berries, and was called "Berri." A bird of the cockatoo species, known as "Willok" came in large numbers to feed upon the fruit referred to.

Wholly set up and printed in Australia at the Victorian Railways Printing Works, Laurens-street, North Melbourne, for the Publishers—The Victorian Railways Commissioners.



SCHOLARS' CLUB BULLETIN

December, 1939

No. 29

New Tourist Bureau Opened In Heart Of Melbourne

THE opening of the new premises of The Victorian Government Tourist Bureau on November 13 is evidence of the rapid expansion of the State's tourist industry.

The new office is situated at 272 Collins Street, on The Block, between Elizabeth and Swanston Streets, and provides more than double the space available in the old building at Queen's Walk.

The Bureau offers a comprehensive service to tourists whether they desire to travel by rail, road, sea or air. It has proved of immense value in stimulating travel within Victoria, and also from the other States to Victoria. The Bureau has branch offices in Sydney, Adelaide, Brisbane, Perth, Hobart, Ballarat, and Mildura.

Not only do the experts at the Bureau arrange all travel details but they also book accommodation at any tourist resort. Moreover, they arrange planned holidays to outstanding resorts in which every detail is settled for the holidaymaker beforehand and the exact cost assessed, covering travel, accommodation, special scenic trips and meals *en route*.

Now that your Christmas holidays are approaching, why not take advantage of this travel service? You will find that it saves you a lot of trouble. There are many lovely spots for a holiday in this State of yours which, perhaps, you have not even considered.

For instance, have you ever thought of Mt. Buffalo National Park, that glorious plateau in the north-eastern corner of Victoria? Then there are Phillip Island, where, in addition to swimming and surfing, you may enjoy the spectacle of koalas, seals, penguins and mutton birds; the rugged beauty of Wilson's Promontory; the Buchan Caves National Park, Daylesford and Hepburn Springs, and the Grampians; and all the glorious seaside resorts along Victoria's coast from Mallacoota to Portland.

If you call in at the Bureau, you can get literature about these and other resorts. Call in as soon as you can, as accommodation at all the favourite holiday places is rapidly filling. The telephone number is F.0404.

ONE-WAY RAIL TRAVEL FOR THESE PIGEONS!

NEARLY 25,000 racing pigeons have added variety to the freight being handled at present by passenger trains on the northern and north-western lines. They have been carried to various stations in specially-constructed baskets, each holding 20 birds, and released to compete in the annual Homing Pigeon Races to Melbourne.

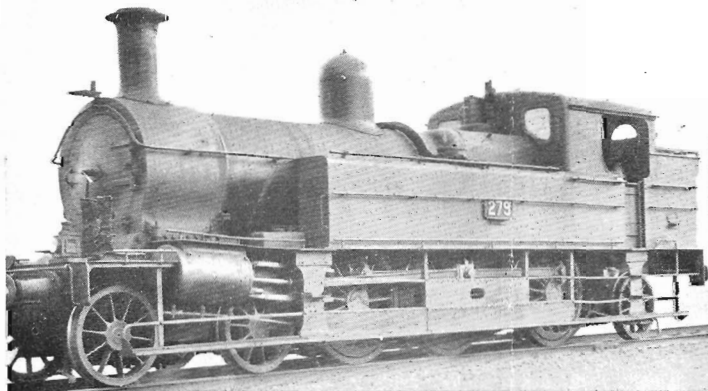
Pigeons have been released as far away from Melbourne as Ouyen (242 "flying" miles) and Mildura (300 miles). In two instances, birds taken to South Australia have flown back to Melbourne from Yarrowie (475 miles) and Carrieton (520 miles).

Birds have also been carried by rail from South Australia and New South Wales for release from various Victorian centres.

How the pigeons find their way back to their lofts has never been satisfactorily explained. The world's record flight by a homing pigeon is 7,200 miles.

On August 15, 1931, this pigeon was released in Arras, France, and after 24 days it found its way back to Saigon, Indo China. As it was taken to France in the hold of a ship travelling around India and through the Red Sea and the Mediterranean, it had no opportunity of selecting landmarks.

It was a message carried by a bird called Cher Ami that saved from annihilation the famous "Lost Battalion" of the American Expeditionary Force.



THESE are tank engines of the 4-6-2 type. Between 1908-13, 58 were built at the Newport Workshops for suburban passenger service. With the completion of suburban electrification some were scrapped, one was sold, and 31 were fitted for shunting service with footboards as shown. They have two outside cylinders 18 in. x 26 in., 60 in. diam. coupled wheels; 185 lb. boiler pressure and develop 20,779 lb. tractive effort. The roadworthy weight is 69 tons. Boiler heating surface is 1,381 sq. ft.; grate area, 22.5 sq. ft.; and the coal and water capacity of bunker and side tanks is 2½ tons and 1,700 gallons respectively. The length is 41 ft. 0½ in.

WARTIME CONDITIONS INCREASE V.R. DRIVE TO ECONOMIZE IN USE OF MATERIALS

IN the July issue of the Bulletin, I told you something about the activities of the Reclamation Depot, where all worn-out railway material and machinery is collected and, if possible, treated for further use. This economical salvage system has saved the Department a considerable amount of money over the years. You will understand that in wartime the need for economy and the strictest provision against waste is even more imperative than in peace time. Since the present war broke out, the Commissioners have laid great stress on the fact that any waste is not only uneconomical but unpatriotic as well.

Immediately following the outbreak of war, the Commissioners deputed the Departmental Stores Standardization Committee to concentrate on questions dealing with substitutes, salvage and reclamation, as a scarcity and increased prices of many materials, particularly those purchased overseas, was anticipated.

The Committee's investigations have disclosed many opportunities for effecting substantial savings. One excellent example concerns cotton waste and sponge cloth. These two items are extensively used by employes, particularly in workshops and locomotive depots and on locomotives. Each year the Department buys 100 tons of cotton waste, costing over £3,200. Purchases of sponge cloth amount to more than £2,200 a year.

Cotton waste and sponge cloths are imported. As normal supplies are not now obtainable, the Committee is conducting reclamation experiments which promise to be highly successful. Initially, all the used cotton waste, free from substances of a metallic nature, is being collected at the North Melbourne Loco. Depot for dry cleaning purposes. So far, the absorbing qualities of the waste after dry cleaning appear to be equal to the original article.

Before any dry cleaning, the excess oil in the cotton waste is being extracted by a centrifugal separator. In turn, this oil is being sprayed on coke which is now being used for locomotive lighting-up purposes, instead of used cotton waste.

MILITARY RAIL TRAFFIC BIGGEST FOR 25 YEARS

A VIVID example of the value of an efficient railway system in a time of national emergency has been provided by the outstanding transport tasks performed by the Victorian Railways in connection with the recent troop movements to various parts of the State. Recent military rail traffic, comprising troops, guns, horses, stores and other equipment, to the camps in the Seymour and Mt. Martha districts has been on a scale comparable with the heaviest handled during the 1914-18 War.

On one day the troops for the camps in the Seymour area were conveyed in 10 special trains from the North-Eastern, Goulburn Valley, Eastern, South-Eastern and Metropolitan districts. These trains, some of which consisted of 12 carriages, arrived at Seymour and adjacent stopping places within a period of six hours.

In addition to the 82 carriages used for the personnel, numerous open trucks were pressed into service for the transport of field guns. As a result of prior test loadings, which revealed the most efficient way of loading and lashing the guns, this part of the operations was carried out with precision in all cases.

A noteworthy feature of this military traffic was that the special trains were run on both the forward and return journeys without interference to the ordinary passenger and goods trains.

Special trains have also been run for the troops on Saturday-Sunday leave at greatly reduced fares. Further, for those wishing to visit friends and relatives in camp, special trains at greatly reduced fares are being run from Melbourne to Seymour and Mornington, connecting with bus services to the various camps. The trains leave the city at a convenient hour on the Sunday morning and return in the evening, thus allowing visitors to spend a reasonable period with the troops.

In case you are thinking of visiting the soldiers in camp some Sunday, here are the fares from Melbourne: To Tallarook and Seymour—1st 7/6, 2nd 5/6. To Mornington—1st 5/7, 2nd 4/5. Children under 14 half-fare.

What Is A Booster ?

IN the description of an "N" class locomotive which appeared in a recent issue of the Bulletin, reference was made to the fact that its tractive effort was increased by the attachment of a booster. This has prompted some curiosity on the part of members, so I propose in this month's Bulletin to tell you something of the nature and functions of the locomotive booster.

In Victoria, the booster is attached to goods locomotives only, although in other parts of the world it is used on passenger locomotives as well. It is used principally to allow a greater load to be hauled on grades. The percentage increase in load is determined by the percentage of ruling grades, the minimum speed desired, the lengths of banks and the capacity of the boiler.

Eighteen "X" class locomotives and one "N" class are fitted with boosters in Victoria. On the "X" class the booster is capable of increasing the tractive effort by 9,000 lb., and on the "N" class by 5,750 lb.

The booster is a horizontal two-cylinder double acting steam engine, mounted on the trailing truck. It is connected to the trailing truck axle of the locomotive through suitable gearing by which it may be engaged or disengaged at will. It is designed for applying power to the trailer wheels in the forward motion. The booster is self-contained and has a flexible mounting in the form of a three-point suspension.

The cylinders are bolted to the trailing side of a cast steel bed plate. The valves are of a plug-piston type without rings, and are actuated by return crank valve gear. The steam supply to the booster is taken from the smoke box steam pipes at a point outside the smoke box. On the right side the exhaust steam from the booster is taken through the steam separator to the smoke box exhaust pipe.

The booster is used when starting a train and when operating on a bank. It is usually cut in at a speed of not more than 10 m.p.h. and is cut out before the speed reaches 15 m.p.h. Before cutting in the booster, the driver must idle the booster for two or three minutes in order to warm the cylinders up.

V.R. Station Names Explained

BALMATTUM, on the main North-Eastern line, is a native name meaning "Man lying on his back." Mount Balmattum, from which the station takes its name, presents that appearance when viewed from the northward.

CHILLINGOLLAH, on the Bendigo to Manangatang line, is not, as you might think, a native name. It is a corruption of "Chillianwalla," a town in the Punjab, India, memorable as the scene of a fierce battle fought in January, 1849, between a British force under Lord Gough and the Sikh army under Shere Singh.

COLLINGWOOD was so named by Robert Hoddle, Surveyor, at the request of Superintendent Latrobe. It is named after Admiral Collingwood, who took charge of the fleet at the battle of Trafalgar when Nelson was killed.

Realistic Model Railway Wins First Prize At Highly Instructive Exhibition

JUDGING from the number of Scholars' Club badges that I saw at the Models Exhibition at the Melbourne Town Hall last month, a good many of you saw the fascinating display of exhibits that were collected there. I think you will agree that the exhibit of the Victorian Model Railway Society fully merited the award of the "T. S. Nettlefold" Cup for the best display at the Exhibition.

The members of the Model Railway Society are to be congratulated on a fine achievement which involved a lot of painstaking work. Their exhibit was a scale model of the Melton railway station and its immediate environs, complete with platform, station buildings, signals, level crossing, sidings, etc., together with surrounding shops, homes and animal life.

To ensure that everything conformed exactly to the real thing, members of the Society made several trips to Melton and photographed the surroundings. Maps were drawn and diagrams of the tracks obtained, and then they went to work to prepare their model. A diorama was prepared and all the existing features of the landscape were put in place to provide an exact reproduction in miniature. An artist painted a very realistic background.

Diminutive Track, Trains . . .

Over tracks of 1½ in. in gauge, with ballast, sleepers and other track appurtenances, replicas of "The Overland," the Mildura train, a petrol electric rail motor, and a mixed train—each complete in every external detail—presented a series of movements carried out daily at the Melton station. The trains were electrically propelled, power being picked up from a centre rail.

Melton is a crossing station, and to allow "The Overland" to sweep through at surprising speed, the rail motor and the mixed train drew into the station platform, and then, with signals working in accordance with strict safeworking principles, moved into No. 2 road. The movements were heightened by appropriate sound effects.

In addition to this display, there were many other models of Victorian and overseas locomotives, including a very fine scale model of an early Hobson's Bay Railway locomotive presented to the Railway Department by Professor W. N. Kernot.

SHOP EARLY — POST EARLY TRAVEL BETWEEN 10 & 4!

CHRISTMAS will soon be here and no doubt you are all looking forward to that happy season. But don't forget the people who work in shops, in the Postal department and in the railways and tramways, to whom the few weeks before Christmas mean a great deal of extra work. You can help them and make their task easier if you will remember to "SHOP EARLY, POST EARLY, TRAVEL BETWEEN TEN AND FOUR."

If you will follow the first maxim—to shop early—and impress it upon your parents too, a great deal of the uncomfortable bustle of Christmas shopping will be avoided.

As to posting early, if you could see the huge piles of letters and packages which the Post Office has to handle at Christmas, I'm sure you'd all try to make their job a little lighter by not waiting till the last minute to send your Christmas cards and presents away.

If you travel between 10 and 4 you will not only ease the rush period congestion in the city, but if you travel by train, you will be doing yourself a good turn too.

From Mondays to Fridays inclusive (Public Holidays excepted) the railways issue return tickets at little more than single fare for travel to Melbourne from outer-suburban stations and stations on the electrified lines outside the suburban area.

These tickets are available by trains timed to arrive at Flinders Street or Princes Bridge not earlier than 10 a.m. and depart not later than 4.30 p.m. The minimum adult fares are: first-class 1/-, second-class 9d. (Children under 14 half-fare.)

HISTORY OF LOCO. CLASS LETTERS AND NUMBERS

AS most of you know, every locomotive in Victoria has both a class letter and a number; for example, X. 39, S. 301. The history of the alphabetical and numerical systems of classification for locomotives on the Victorian Railways makes an interesting story.

When the Victorian Government Railways (as distinct from the Hobson's Bay and other private railway companies) came into being about 1859-60, the locomotives were identified by numbers only. Passenger locomotives were allotted even numbers and goods locomotives odd numbers. This principle was retained until 1911, when the great preponderance of passenger over goods locomotives caused the adoption of consecutive numbering, irrespective of whether engines were for passenger or goods service.

A.B.C.

In 1886, the alphabetical classification was introduced. Passenger locomotives were divided into 13 classes, namely, "A" to "N" inclusive, with the exception of "I" which has never been used. Goods locomotives were given eleven class letters, namely, "O" to "Y" inclusive. Class "Z" was not used until 1893, when it was allotted to a passenger type.

By the late eighties, every letter of the alphabet, with the exceptions of "I" and "Z," was in use, so double lettering was resorted to, for example, Aa, Dd, Ee, etc. The arbitrary division of the alphabet for passenger and goods locomotives was gradually abandoned, and nowadays class letters are allotted to either passenger or goods locomotives.

In 1923, a commencement was made with the renumbering of several classes of locomotives into more compact numerical groups, and this policy has been pursued intermittently ever since. In 1929, further renumbering and some minor reclassification of "A" and "D" classes into sub-classes (for instance A1, D3, etc.) took place.

Electric Bells Herald Approach Of Trains To Level Crossings

FROM time to time we have told you something in the Bulletin about the care taken by the Department to make level crossings safe. Now a member wants to know something about the electric bells that are provided at certain level crossings.

The purpose of these bells is to enable signalmen to warn the gatekeeper of each train proceeding in the direction of the level crossing in the latter's care.

Signalmen must ring a stopping train on as soon as it commences to move from the platform at their station, while a non-stopping train must be announced earlier, at latest when it passes the arrival home signal.

There is a special code of long and short rings which are readily understandable to the gatekeeper. For instance, a "down" train is announced by one long ring and an "up" train by two long rings. Where return ringing facilities are provided the gatekeeper must acknowledge all bell signals by repeating them back to the signalman.

PORTABLE TELEPHONES ON TRAINS VALUABLE IN EMERGENCY

I WONDER how many of you know that portable telephones are carried on certain Victorian trains. They are used on relatively isolated stretches of track where it might be difficult otherwise to establish communication in the event of a train becoming disabled. The lines on which telephones are carried are the Crowes, Gembrook and Walhalla narrow gauge lines, the Mt. Gambier line and certain sections of the Kulwin and Robinvale lines.

The telephone and equipment are carried in the brake-van and are tested at regular intervals to ensure their fitness for use in case of emergency. This is how the telephone is operated. By means of a rod one of the flexible connections is hooked to the railway line wire while the other end of the flexible wire is connected to the binding screw on the telephone.

A hollow iron spike is driven well into the ground, in a damp place if possible; if the ground is dry water is poured into the hollow spike. The wire attached to the iron spike is connected to the terminal of the telephone.

Then the generator handle is screwed into the operating position and operated in the ordinary way, care being taken to press the contact in the transmitter handle whilst speaking.

When communication has been established, the guard gives his own name, the name of his train and the mileage of his whereabouts, and after he has ascertained the name of the station and the person answering the call, messages may be transmitted.

CHANCE FOR PEN-FRIEND IN INDIA

LAST month, Bill received one of the most interesting letters that has ever reached him. It came all the way from India, and he was immensely pleased to find that the Bulletin is known so far away. The letter came from Master D. B. Ghose, 109/4/1B Lake Road, P.O. Kalighat, Calcutta, India, and he would like any member of the Scholars' Club to write to him and exchange stamps and any information about railways. I am sure many of you will jump at the opportunity of having a pen friend in India.

DEAR Members.—As this is the only chance I will get, even though it is a bit early, I want to wish you all a Merry Xmas and a Happy New Year. I suppose you are all gleefully anticipating the long break from school and I hope you all have a very pleasant holiday.

You will notice in this issue a request to Shop Early, Post Early, and Travel between Ten and Four. I want you to read that carefully and show it to your parents as well. You will also notice an account of the activities of the Victorian Government Tourist Bureau. I suppose you've seen its new offices in Collins Street.

Don't forget to call in there any time you want information about where to spend your holidays. The staff at the Bureau know all about all the tourist resorts and will be glad to help you.

Your old friend,

Bill Smith

Bill Smith's Mail Bag

ONCE again Bill got a whole heap of letters last month asking intelligent questions that showed a keen interest in railways. He was particularly pleased to hear from an old pen friend in Jim Moorhead, of Auckland, New Zealand. Jim was kind enough to send over a collection of New Zealand Railway Magazines, which Bill found very interesting.

Stephen Owen, of Yarraville, wanted to know what is the fastest speed of an English locomotive. I daresay most of you would like to know that. Bill replied that the fastest English locomotive is a 4-6-2 type made by the London and North-Eastern Railway, which has been timed to do 126 m.p.h. over a short distance.

Graham Crowther, of Middle Brighton, inquired about the history of the tunnel lying beneath the Brighton Beach platform and ending at the foot of the pier. This tunnel, Bill replied, has a very interesting history. Very few people who pass the low stone wall at the end of the Brighton Beach pier, realize that it is a 78-year-old relic. The St. Kilda and Brighton Railway Company, which was formed by an early pioneer named Henry Dendy, was responsible for the building of the tunnel.

The Company anticipated that overseas ships would stop at the pier, and got permission to build the tunnel from Brighton Beach station under the beach road to the pier in order to convey merchandise from the pier to the railway station. The development of Brighton as a port for overseas ships did not eventuate. The St. Kilda and Brighton Railway Company was subsequently wound up, but the tunnel still remains, and is now hired by a fisherman who uses it for the storage of his boats and fishing gear.

Lure Of Carrot Too Much For This Giraffe!

OF course you all know that on all railway systems there are certain limits in height and width to which consignments must conform if they are to be carried with safety. Most railway systems, however, will on occasions carry loads that do not conform to standard measurements, special arrangements being made for the safeworking of the trains carrying such loads.

Here is a story which illustrates the resource that must occasionally be used to get unusual consignments safely to their destination. A circus giraffe which was travelling recently by an American train thrust his neck through the top of his special crate-car and held up the train at an overhead bridge.

The giraffe was three inches too tall to pass under. The baffled conductor telephoned headquarters. It was a new problem, but the freight clearance expert was equal to it. "Drop a carrot into the giraffe's crate," he advised. The carrot was dropped, the giraffe stooped to get it, the driver jerked the throttle, and the train went under the bridge!

In Victoria consignments must ordinarily be not more than 13 feet 6 inches from the rail level nor more than 9 feet 8 inches wide. But various methods are resorted to in the case of articles of exceptional shape, dimensions or weight.

For instance, where height is the difficulty, the floor of a truck may be lowered. Out-of-gauge loads of exceptional width will be conveyed only by agreed trains so as to avoid, as far as possible, the passing of other trains *en route*.

Wholly set up and printed in Australia at the Victorian Railways Printing Works, Laurens-street, North Melbourne, for the Publishers—The Victorian Railways Commissioners.