No. 10, one of the unconverted ex-Melbourne open combination cars.

Bendigo's electric tramways were 30 years old, and required quite a deal of attention to track, overhead and rolling stock. The costs and advantages of rehabilitating the system, compared with alternative methods of transport, were probed, and it was decided that the best solution would be to reconstruct the system to a reasonable standard, which would ensure adequate street transport for the next 15 years. The cost was estimated at £66,000. The bulk of this amount was for track reconstruction, with the remainder for overhead wiring, workshops equipment and construction plant.

Most of the money required was received from the National Recovery Fund, with the remainder coming from a Government grant and the S.E.C.'s own resources. The work was quickly put in hand after the S.E.C. assumed full control, and gangs were on the job by about the end of September, 1934. By the middle of 1935 nearly all the overhead wiring had been reconstructed and 3.44 miles of track had been relaid. The track layout remained basically the same. However, the single track section from Charing Cross to the Fire Station loop on the Golden Square route was positioned on the crown of the road with side poles and span wire overhead construction (instead of as originally built), and the compound crossover in Pall Mall and the facing crossover in Mitchell Street were removed.

Rolling Stock

Before the end of their franchise, the Company realised that its elderly and lightly constructed tramcars were showing the strain of nearly thirty years service, as replacement vehicles were acquired from Melbourne. Melbourne and Metropolitan Tramways Board car No. 107 arrived in January, 1930, and became No. 19, being re-numbered 12 in 1935. It was an open "California" type car, with centre saloon and drop-end open platforms, the latter each having the motorman's compartment at their extremities, a transverse seat fixed against the motorman's bulkhead and a tip-over transverse seat in the middle of the platform. It was altered for one-man operation by cutting a passageway through the centre of the tip-over seat, and fixing the unwanted side barrier rails in the lowered position. The sheet of glass from each near-side motorman's bulkhead was removed to enable passengers to pay the motorman as they entered or alighted from the car. A further nine cars arrived from Melbourne during 1930-31, becoming Nos. 2, 3, 4, 6, 7, 10, 13, 14 and 16. These cars received the same road numbers as older vehicles, but it did not automatically mean that the older car was, or had previously been, scrapped. There were instances of both "old" and "new" cars concurrently bearing the same number.

March, 1935, saw the arrival of three more similar cars, and they became Nos. 19 to 21. Of these thirteen cars, Nos. 12 (ex 19), 16, 19, 20 and 21 were converted for one-man operation. Apart from No. 12, it would appear that the conversion was to the later-day style, to which No. 12 was subsequently altered. An additional car, which became No. 22, arrived from Melbourne in January, 1936, but was different to the previous trams. Although a com-
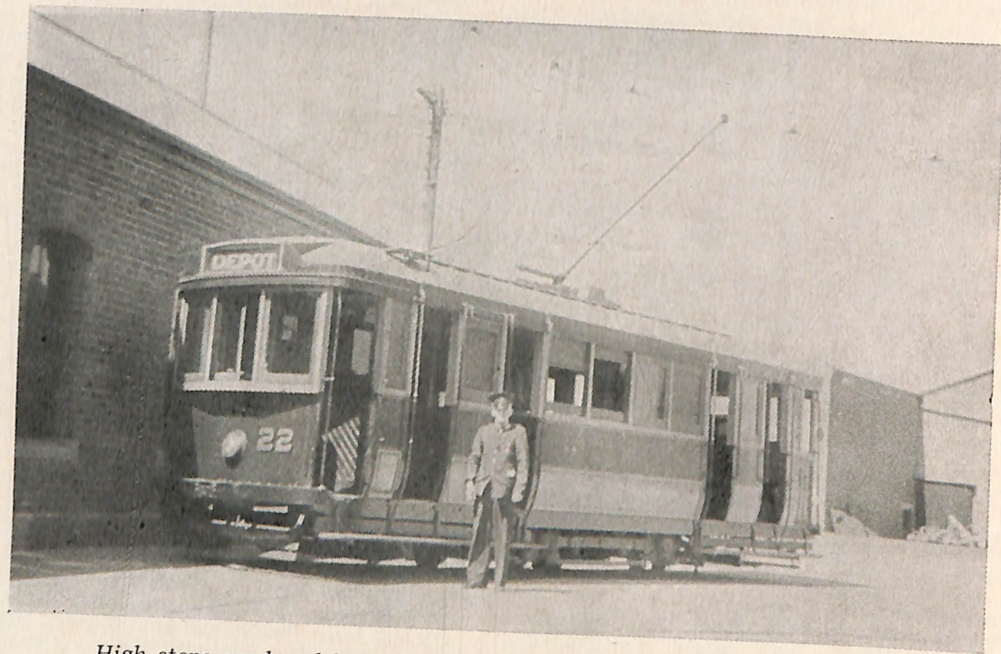
High steps produced by the straight sill brought limited use for No. 22.
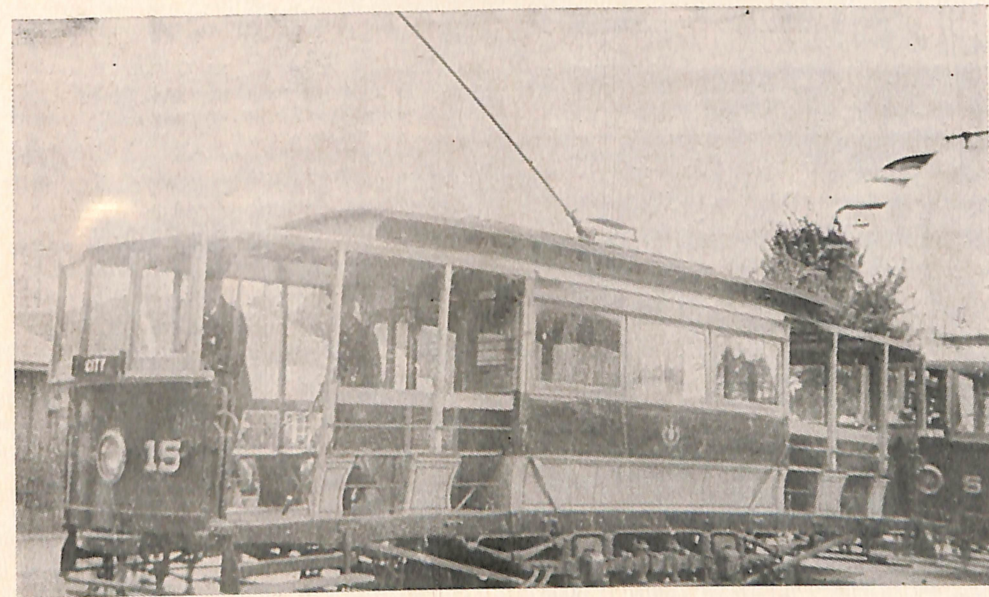
An early electric car as converted for one-man operation. Note body bracing.

OUT

CITY to LAKE WEEROONA
Saturday

Trams leave City:—

Same as Monday to Thursday, then—

11.24 a.m.	2.12 p.m.	5.48 p.m.	8.42 p.m.
11.33 „	2.24 „	6.0 „	8.51 „
11.42 „	2.36 „	6.12 „	9.0 „
11.51 „	2.48 „	6.24 „	9.9 „
12.0 p.m.	3.0 „	6.36 „	9.18 „
12.9 „	3.12 „	6.48 „	9.27 „
12.18 „	3.24 „	7.0 „	9.36 „
12.27 „	3.36 „	7.12 „	9.45 „
12.36 „	3.48 „	7.21 „	9.54 „
12.45 „	4.0 „	7.30 „	10.3 „
12.54 „	4.12 „	7.39 „	10.12 „
1.3 „	4.24 „	7.48 „	10.21 „
1.12 „	4.36 „	7.57 „	10.30 „
1.21 „	4.48 „	8.6 „	*10.39 „
1.28 „	5.0 „	8.15 „	*10.48 „
1.36 „	5.12 „	8.24 „	*11.0 „
1.48 „	5.24 „	8.33 „	*+11.6 „
2.0 „	5.36 „		

* denotes subject to terminating times of
entertainment.

+ „ to Depot.

IN

LAKE WEEROONA to CITY
Saturday

Trams leave Lake Weeroona:—

Same as Monday to Thursday, then—

10.55 a.m.	1.43 p.m.	5.31 p.m.	8.40 p.m.
D11.4 „	1.55 „	5.43 „	8.49 „
11.13 „	2.7 „	5.55 „	8.58 „
11.22 „	2.19 „	6.7 „	9.7 „
11.31 „	2.31 „	6.19 „	9.16 „
11.40 „	2.43 „	6.31 „	9.25 „
11.49 „	2.55 „	6.43 „	9.34 „
11.58 „	3.7 „	D6.52 „	9.43 „
12.7 p.m.	3.19 „	7.1 „	9.52 „
12.16 „	3.31 „	7.10 „	10.1 „
12.25 „	3.43 „	7.19 „	10.16 „
12.34 „	3.55 „	7.28 „	10.19 „
12.43 „	4.7 „	7.37 „	10.28 „
12.52 „	4.19 „	7.46 „	*10.37 „
1.1 „	4.31 „	7.55 „	*10.46 „
1.10 „	4.43 „	8.4 „	*10.54 „
1.19 „	4.55 „	8.13 „	*11.6 „
+1.28 „	5.7 „	8.22 „	*+11.15 „
1.34 „	5.19 „	8.31 „	*+11.22 „

* denotes subject to terminating times of
entertainments.

+ „ to Depot.

D „ from Depot.

An extract from 1940 timetable.

bination car, its ends were semi-closed and its main frame was straight. This latter feature caused the step heights to be greater than the previously received ex-Melbourne cars, and it therefore became unpopular with crews and passengers. Consequently No. 22 saw relatively little service in Bendigo. Having acquired fourteen new trams, ten of the 1903-04 cars were scrapped during the early and middle 1930's, resulting in a net increase of four in the size of the fleet. The scrapped cars were Nos. 2, 3, 4, 6, 7, 10, 12, 13, 14 and 16.

An additional one-man car was required in 1942 (in connection with the North Bendigo extension), and No. 15 was modified, in similar style to the 1913 alterations. The ex-Melbourne cars had been altered by removing the near-side one-third of the motorman's bulkhead, and relocating its side pillar closer to the saloon. Sheet metal panelling, to waist-rail height, was placed between this pillar and the saloon. A seat was located along this side panel, and both the tip-over and bulkhead seats were cut back to allow passenger access. The entrance could be closed by a collapsible metal grille when not in use. The off-side was panelled from the motorman's bulkhead pillar to the pillar at the end of the former tip-over seat, thus providing an alternative entrance to the end platform of the car. This second entrance was closed by a grille or swing door when the car was one-man operated, but left open for two-man use.

The 1903 water tram had been out of service since about 1918, but was restored to use in 1935-36 during the rehabilitation of the system. When the open combination cars arrived from Melbourne in the early 1930's, they were painted in the standard colours of the Company, but this was changed by the S.E.C. to olive green and cream, each with pale green lining. Numerals were in gold leaf with black shading. The rocker panels (the lower portions of the saloon sides and the drop-end side panels on the converted cars) were cream until the late 1940's, when they were painted green. The timber window sashes were stained until about 1950, after which they were painted cream. During 1934-35, the six 1903-04 cars which were retained (Nos. 1, 5, 8, 9, 11 and 15) were fitted with air brakes, except possibly No. 15, which is believed to have been equipped later. Destination signs on these cars were wooden boards dropped into brackets in front of the centre window of the motorman's weather shield.

The Commission's Trams

The S.E.C. had hardly finished rehabilitating the Bendigo tramways when World War II was declared. The trams carried increased loadings for several years, and survived the shortages of materials and maintenance fairly well. The June, 1940 timetable indicates that the Eaglehawk to Quarry Hill lines received a tram every 20 minutes on Monday to Thursday with a 15 minute service during the morning, noon and afternoon peak periods. The Friday afternoon and evening service provided a car every 10 minutes. Saturday passengers waited no more than 10 minutes except until about 10.00 a.m. and between about 2.00 and 6.00 p.m. when the headway was 15 minutes. Sunday saw a 15 minute
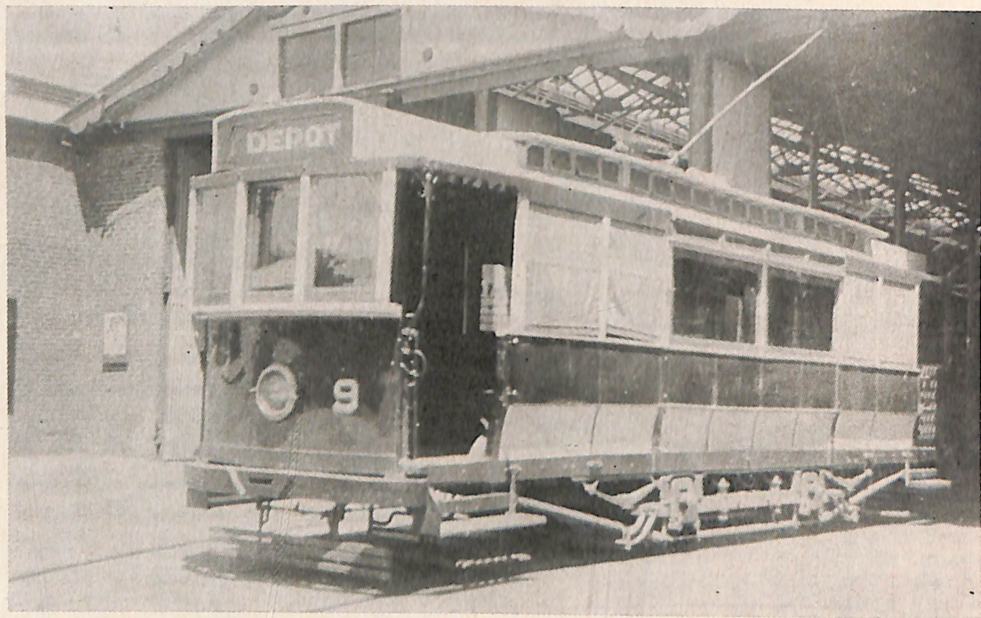
Original car No. 9 in its short-lived third and final form.
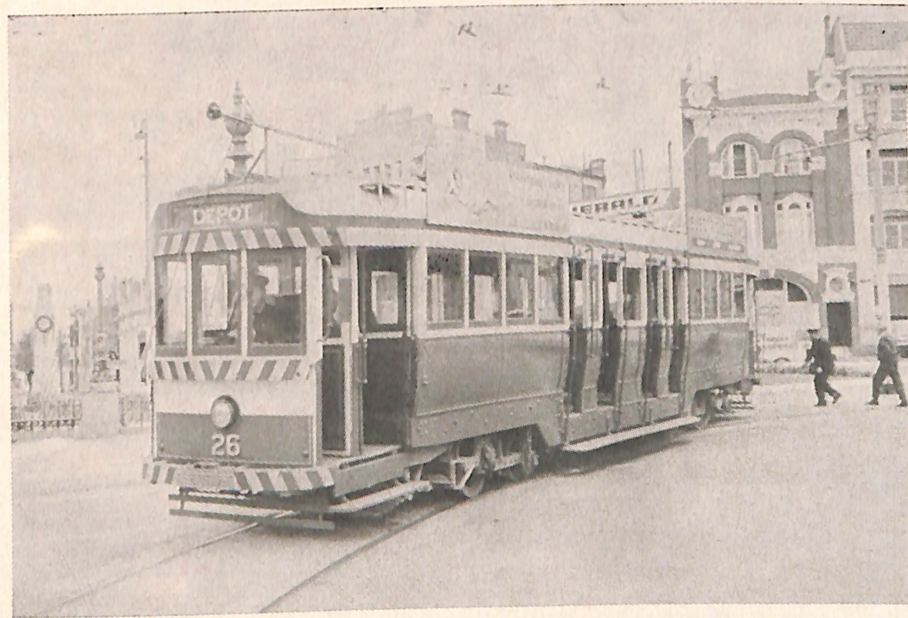
Ex-Hawthorn Tramways Trust, No. 26 pauses on the curve while the conductor re-sets the main-line points at Charing Cross.

The unused "Terminus" at North Bendigo, with the "Siding" leading to the right.

schedule maintained from 2.00 p.m., but trams met trains from Melbourne at 11.45 a.m. and 12.45 a.m., while one tram left the city as early as 7.35 a.m., returned from Eaglehawk at 8.00 a.m. and arrived at the railway station by 8.30 a.m. The Golden Square to Lake Weeroona route operated a 12 minute service throughout the day and evening on Monday to Thursday, with the same times applying on Friday until shortly after 3.00 p.m. From this point, trams ran every nine minutes until about 10.00 p.m., after which a 12 minute headway was operated until last car. The Saturday timetable provided a 12 minute service until about 11.00 a.m., and from about 1.30 to 7.00 p.m., with trams every nine minutes at other times. The Sunday afternoon and evening cars operated every 12 minutes.

Trolley wheel operated two-aspect colour-light signals were installed, probably about 1938, to regulate the passage of trams on most of the single track sections. An extension from Lake Weeroona to North Bendigo was opened on 23rd November, 1942, to service the Government Ordnance Factory. The rails ended a few feet short of the Victorian Railways 5 ft. 3 in. gauge main line to Swan Hill when a dispute arose as to how the tramway would cross the railway to reach the Ordnance Factory. The V.R. required an overbridge but its cost and the effort required to construct it at that period of the war produced a stalemate. A short spur was constructed parallel to the railway line to act as a lay-over storage track for trams carrying shift workers to and from the factory. The over-bridge did not eventuate and the temporary spur soon
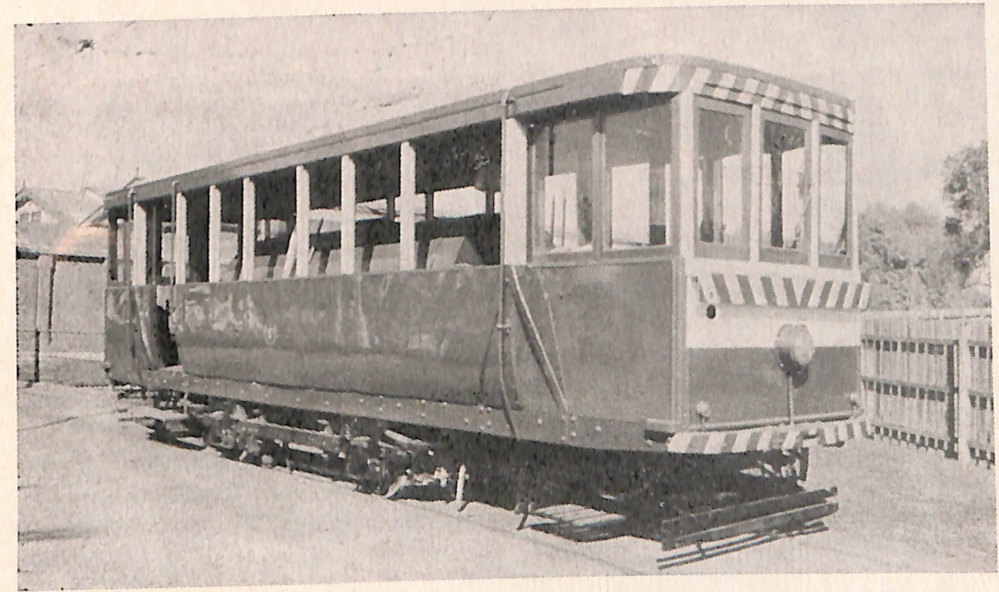
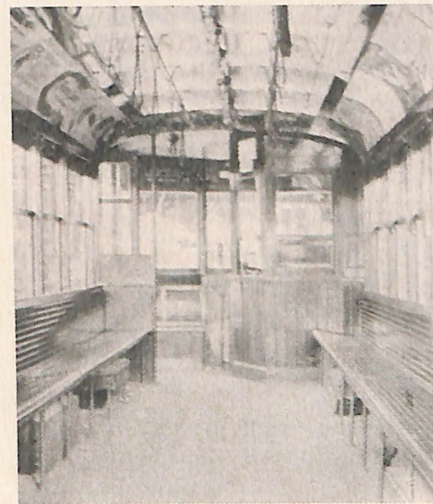*The second track cleaner, rebuilt in 1953 from cross bench car No. 17.*
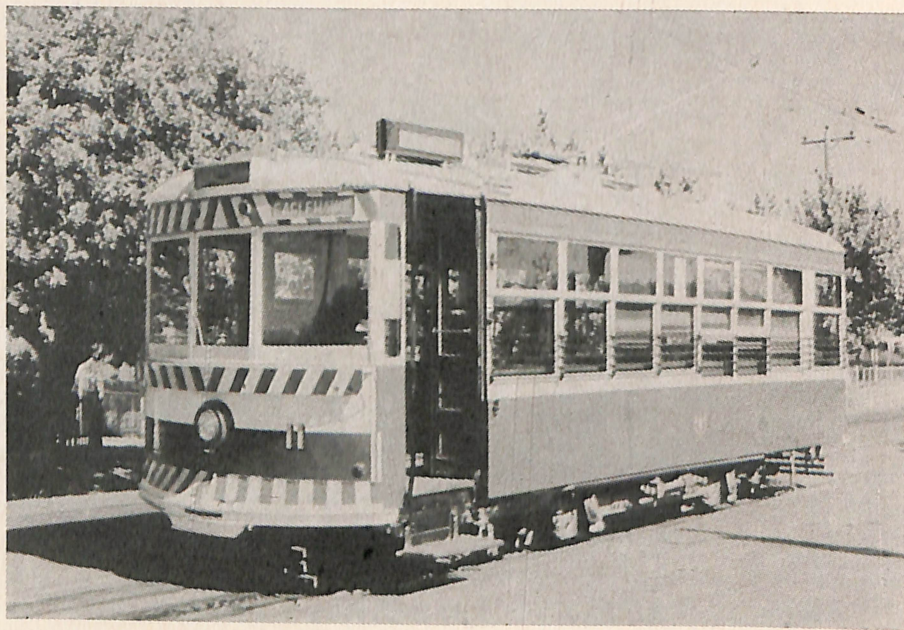
Birney car No. 11 complete with defensive "war paint".

GOLDEN SQUARE
N^TH BENDIGO
THORPE S^T
LONG GULLY
EAGLEHAWK
QUARRY HILL
CHARING CROSS
GOLDEN SQUARE
LAKE WEEROONA
DEPOT
R^LY STATION
SPECIAL

Above: Interior of "Geelong" type Birney car No. 15.

Left: Interior of standard Birney car No. 29.

*Ex Prahran and Malvern Tramways Trust, No. 17 waits at Eaglehawk for the long run to Quarry Hill.*

became the permanent terminus. The short, straight stub which ran almost to the railway line remained unused and was eventually removed during 1955-56. The double track terminus at Lake Weeroona was removed by 1950, but the single track, which had been the main line to it, remained until 1955-56.

When the Melbourne and Metropolitan Tramways Board offered some of its maximum traction bogie tramcars for sale, the S.E.C. decided to purchase two for use at Bendigo. The first car arrived on 16th October, 1945, and became No. 23. It was followed two weeks later by another car (which became No. 24), and in May and October, 1947, by two more cars which became Nos. 25 and 26.

During 1945-46 work had commenced to recondition the six 1903-04 combination cars, and Nos. 8 and 9 had been altered to the same style as the ex-Melbourne one-man cars (with panelled sides and roof destination boxes). Work commenced on No. 1, but was stopped and cancelled. Subsequently, the S.E.C. decided to transfer the six Birney type tramcars from its Geelong system to Bendigo, and this allowed the six oldest cars (Nos. 1, 5, 8, 9, 11 and 15) to be scrapped during 1947. The six new cars carried Geelong Nos. 14, 15, 27 to 30 and these were retained except No. 14, which became Bendigo No. 11. Nos. 27 to 30 arrived during 1947, No. 15 in 1948 and No. 11 in 1949. It was also decided to retire the two open cross bench cars, Nos. 17 and 18, during 1948. The latter was scrapped and sold while the former was retained and converted to a track cleaning car in September, 1953. The original water car was sold during 1954.
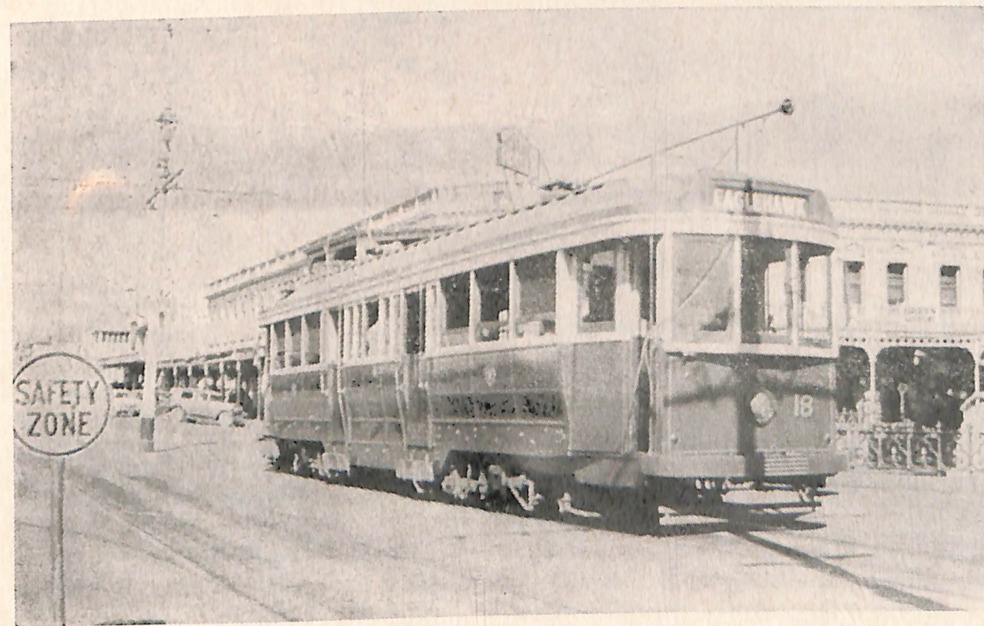

*Bogie car No. 18, as converted for one-man operation, at Charing Cross.*
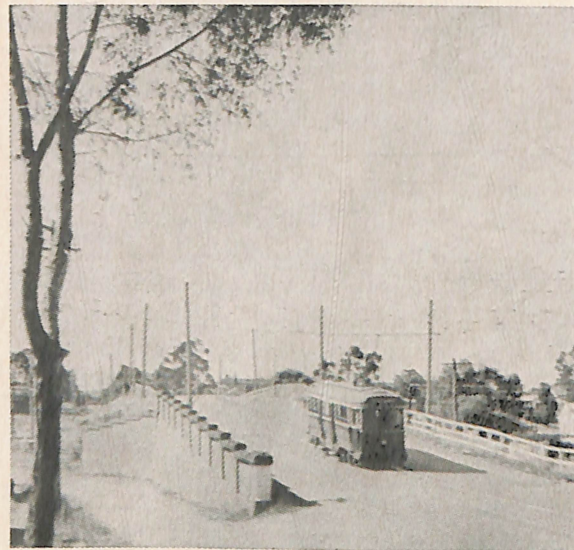
No. 18 crosses the railway bridge at Eaglehawk.

Two more bogie cars were purchased from Melbourne in May, 1951, and they became Nos. 17 and 18. The S.E.C. was experiencing the problem of increasing costs and decreasing passengers and revenue in the post-war period, so it was decided to convert one bogie car for one-man operation as a prototype for possible future conversion of other cars. No. 18 was modified during 1952 by panelling its centre pair of side entrances, and fitting swing doors to the remaining four centre side entrances and each near-side leading entrance. The motorman's bulkhead panels were modified to enable passengers to pay the motorman as they boarded the car. However, the Employees' Union refused to one-man operate large (bogie) trams, and this car has never run as such. Some of the unconverted ex-Melbourne single truck cars were scrapped and replaced by bogie cars in the early 1950's, and the remainder became surplus when, in 1956, additional bogie cars (becoming Nos. 1 to 5) arrived from Geelong. These cars originated from Melbourne, but the S.E.C. had operated them on the Geelong tramway system until it was closed early in 1956. No. 3, the last serviceable unconverted ex-Melbourne car, was presented to the Australian Electric Traction Association for preservation in 1956, and passed to the Tramway Museum Society of Victoria Limited when that body was formed in 1963.

For many years the S.E.C.'s tramcars have been vulnerable to collisions with motor vehicles at night, probably due to the poor street lighting in the Provincial cities and the use of much single track.
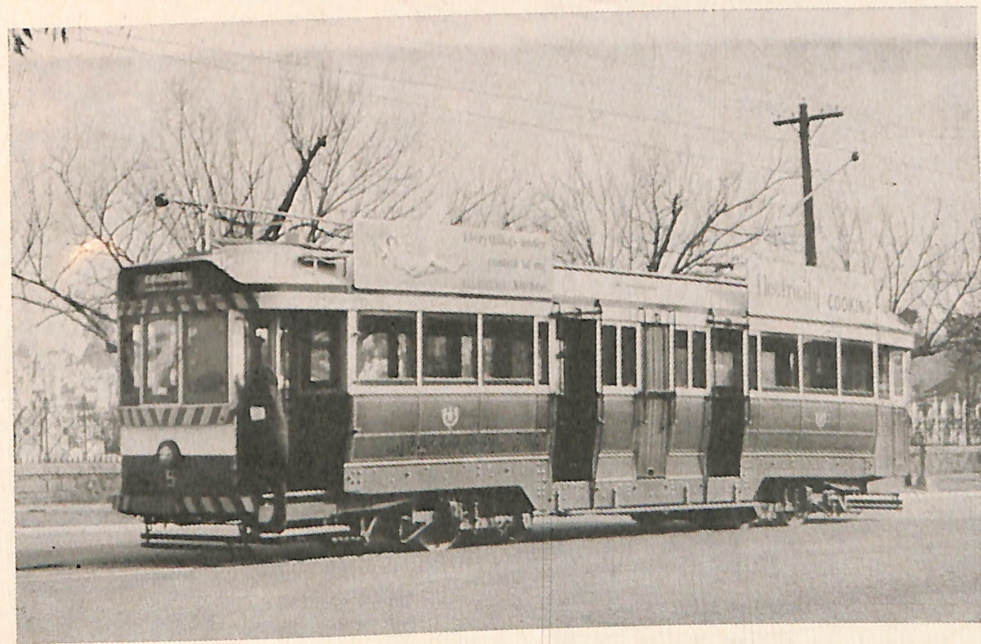
The cemetery at Quarry Hill terminus forms the background for No. 5 (ex Geelong).
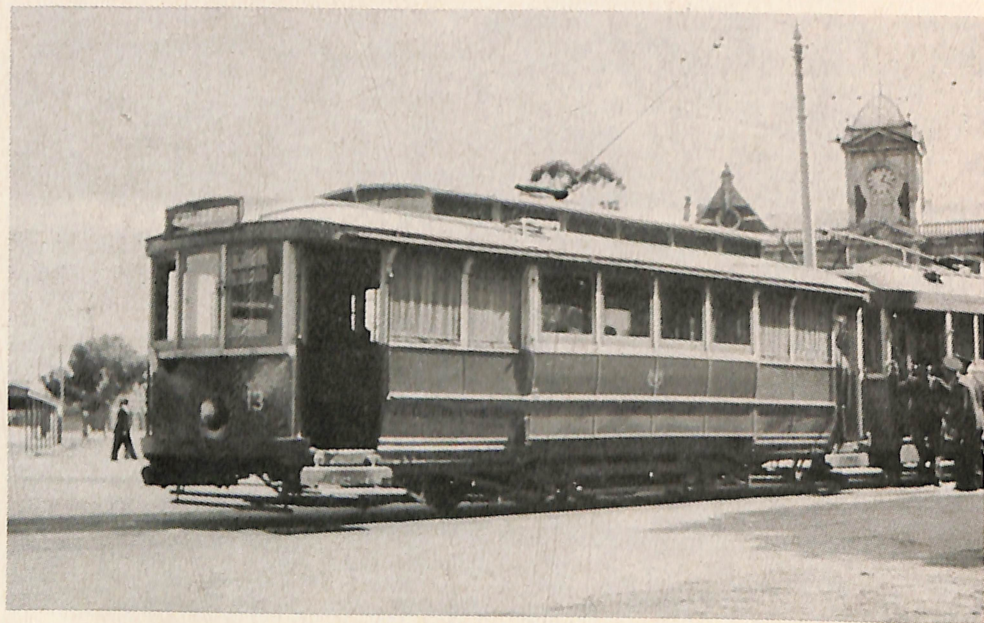
*No. 13, the "Ballarat" type conversion, at the Eaglehawk Town Hall.*

Four tail lights, one in each lower corner of each apron, were fitted in 1952, and operated in conjunction with the headlight at the other end of the car. White reflective tape was fitted in 1956, to aprons and bumpers, as an additional means of identification. Unfortunately, accidents continued to happen, so it was decided to add to the trams' "defences" by providing additional illumination. A canopy was fixed at the top of each apron, drilled with six holes, and fitted with four white and two red electric light globes. This canopy, the bumper and the fascia strip (around the destination box) were painted with stripes. The four white globes at the front of the car cast a very good light down on to the apron and also shine straight out through the holes, thus greatly augmenting the headlight. The rear of the tram shows the two red lights from the canopy (thus completing the circuit with the front four lights), as well as the two original tail-lights. Initially a white strip was painted within the canopy, but this was later extended half way down the aprons. All cars were thus fitted in 1961.

In the late 1940's, it had been decided that an additional one-man car was required, and No. 13 was selected for conversion. It was decided to modify it to the "Ballarat" design; that is, with an entrance door at each corner of the car. Both sides of each motorman's bulkhead were cut away, the side pillar moved backwards the sides of the, drop-ends panelled to waist rail height and the transverse seats placed longitudinally. Although the "odd car", it ran regularly until scrapped in 1960.
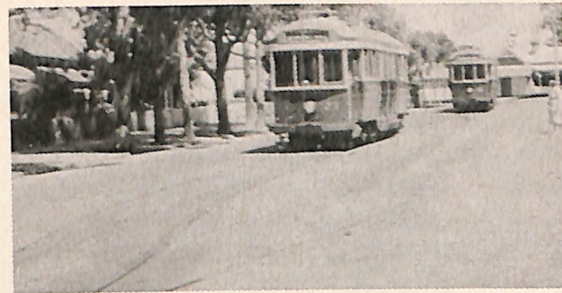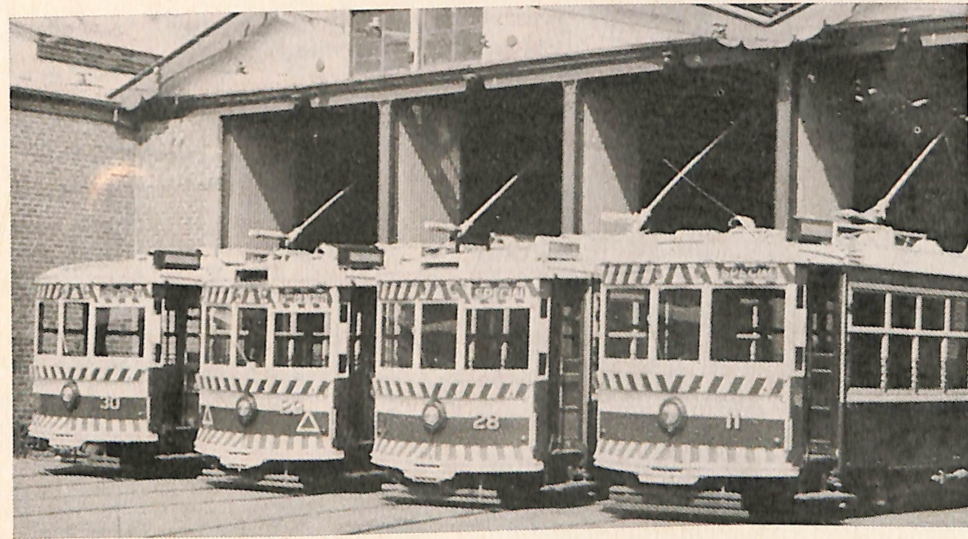

Above: Typical symmetrical loop — Star and Garter.

Below: The only "D" type loop was in Bridge Street, North Bendigo.
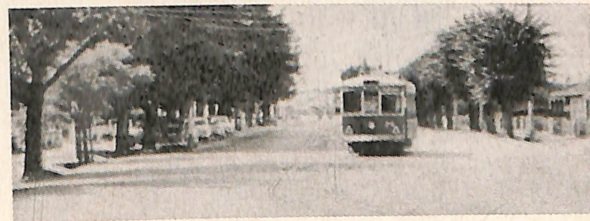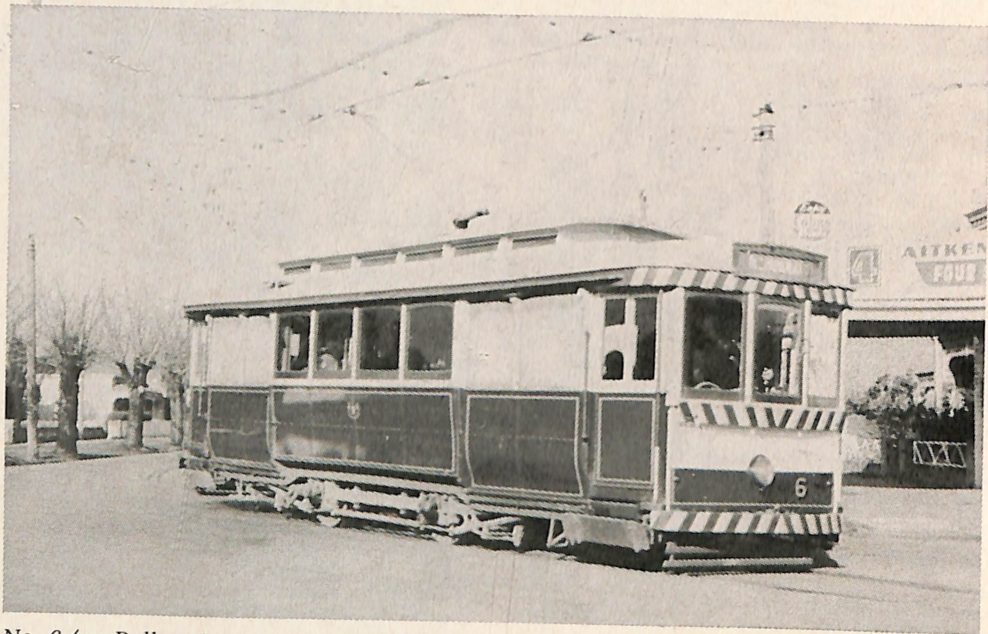
No. 6 (ex Ballarat) turns from McCrae Street into Nolan Street. The single trolley wire leading to the left is the last remnant of the former Lake Weeroona terminus.

— and then there were four.