

The Tramways of Adelaide

PAST, PRESENT, AND FUTURE.

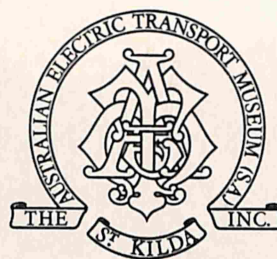
A Complete Illustrated and Historical Souvenir of the Adelaide Tramways
from the inception of the Horse Trams to the inauguration of the
present magnificent

ELECTRIC TROLLEY CAR SYSTEM.

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March 9, 1909.

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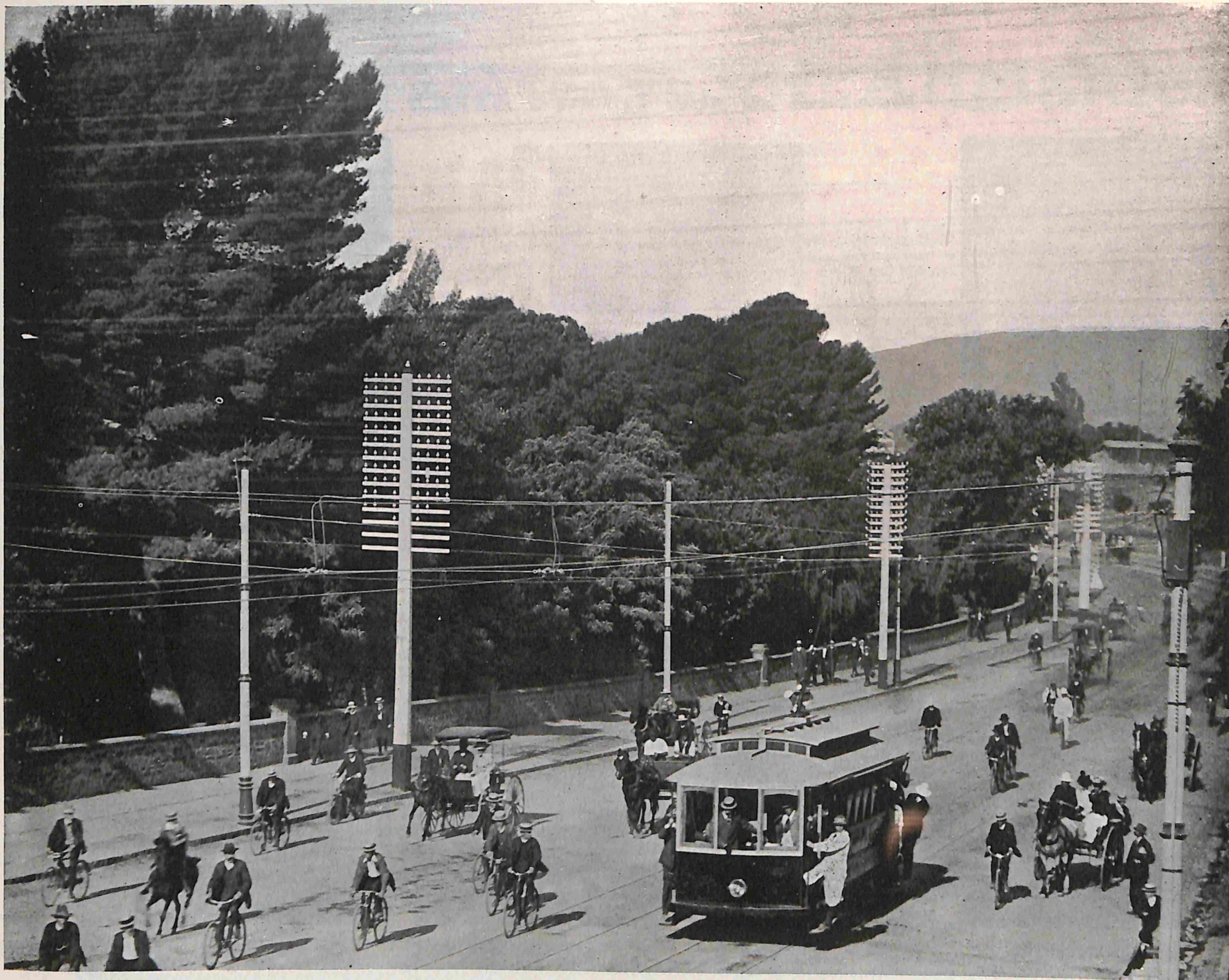
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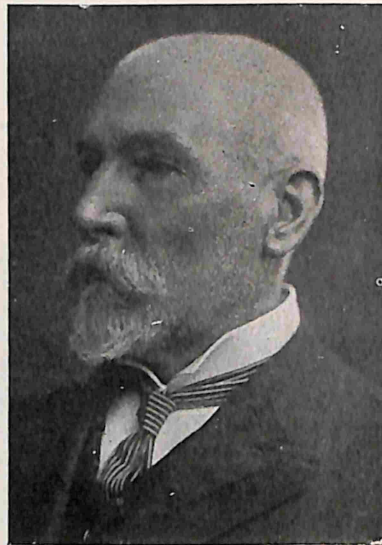
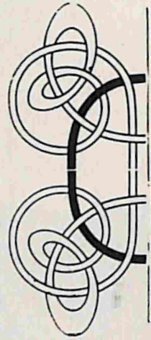
"AT LAST."

THE FIRST VIEW TAKEN OF THE FIRST ELECTRIC CAR RUNNING IN ADELAIDE.

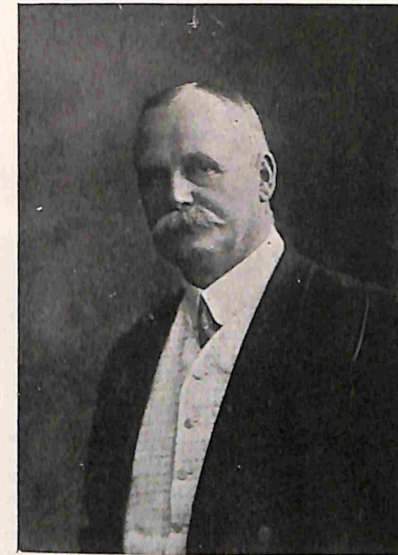
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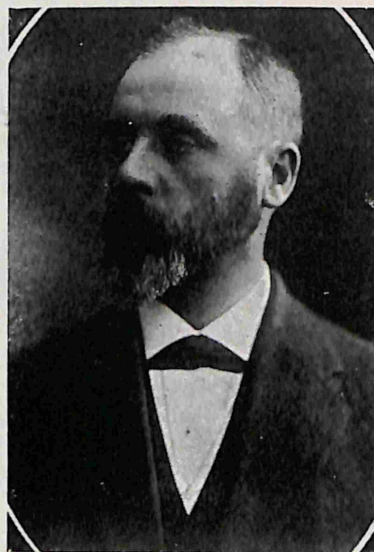
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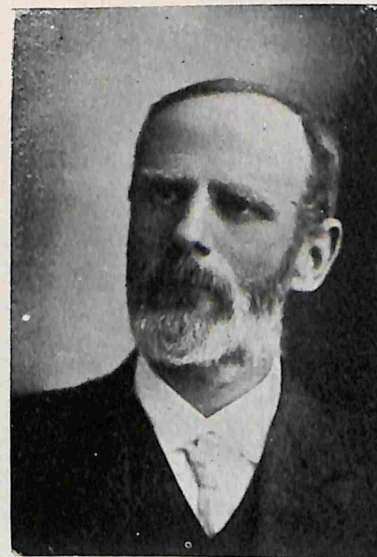
MR. THEODORE BRUCE.



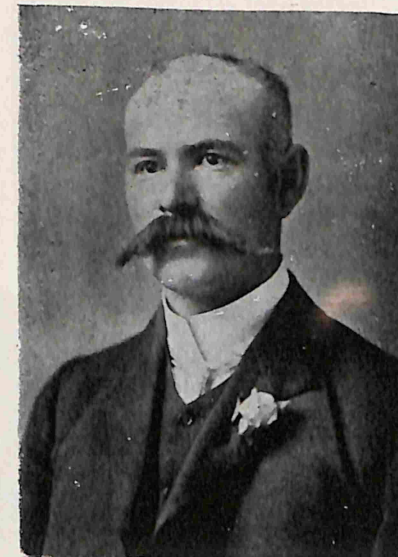
MR. E. CRUICKSHANK.



MR. H. J. HOLDEN.



MR. J. T. MELLOR.



MR. A. C. SANDERS.

The Tramways of Adelaide.

PAST, PRESENT, FUTURE.



It is a matter of history that urban growth and progress are inseparably connected with the question of transit. Right back to the classic days — when the Greeks built highways from the Pireas to ancient Athens, and intersected the Peloponnesian Peninsula with roadways which have lasted almost ever since; when the Romans constructed their famous Appian way, and built highways athwart the eternal seven hills of their city; when the same great colonisers, crossing Cisalpine snows, penetrated Gaul, and crossed the channel to Albion; when in the latter island they pushed the frontiers of a new civilisation into the then rural districts by means of roads, which to the present day remain monuments of their engineering capabilities — the matter of arranging for speedy, convenient, and reliable transit has been one of paramount importance. As in the old world, so it has been in the new. The earliest settlers in Australia directed almost their earliest attention to the provision of roadways from Port Arthur, from Sydney, from Fremantle, from Melbourne, and last, but not least, from Adelaide, in order to secure connection between places destined to become metropolitan in nature and with the hinterlands, upon which every country must absolutely depend for its sustenance and commercial success.

—History and Progress.—

It would appear that in the early days of Adelaide's history this question was uppermost in the minds of those in authority. There can be little doubt that the prime element in his constructive ideas prompting Colonel Light when he designed Adelaide, was adequate provision for suitable means of communication and inter-communication in and about the future city and its suburbs.

To this end he made King William-street and Wakefield-street wide thoroughfares, and to this end also conceived the design of arranging for suitable arteries

for the city's traffic. Citizens of to-day therefore have every reason to eulogise the genius which gave this fair city its straight and broad streets as compared

with the cramped and congested thoroughfares through which throb the life and energy of Sydney and other Austral cities. But the onward march of progress is



THE TRAMWAYS TRUST AT WORK.

Messrs. A. B. Moncrieff (in the Chair), W. G. T. Goodman (General Manager and Electrical Engineer), T. Gill, J. T. Mellor, J. E. Baker, A. C. Sanders, E. Cruickshank, H. J. Holden, Theodore Bruce, and the Secretary (Mr. S. Russell Booth).

not content with the means of transit which satisfied grandparents of the present generation. While years ago the people walked, and bullock-drays crawled,



THE LATE MR. W. C. BUIK.

and horse-teams moved but little faster, nowadays it is necessary that traffic should be more speedy, more frequent, and more reliable. Such a thought was behind George Stephenson's crude conception when he constructed "Puffing Billy," and ran the first steam train from Stockton to Darlington. Such a thought also impelled the successors of engineer Stephenson to perfect the elemental ideas of that eminent inventor. And it is interesting to contemplate the fact (as illustrating the curious repetitions of history) that precisely the same forces of political and social economy are those which to-day make absolutely necessary the magnificent electric tramway system which is being installed in this Queen City of the South.

—The State's First Tram.—

The fact is not generally appreciated that tramway transit in this State is considerably over half a century old, for it was in the days of Governor Young that the Goolwa and Port Eliot tramway

line was constructed and opened for traffic. So far as this writer can determine, it is difficult to find out who was precisely responsible for the idea of that tramway, but the fact remains that in January of 1855 it was complete, the event being celebrated by a sumptuous dinner. The management of this, South Australia's pioneer tramline, was in the hands of Mr. Thomas Jones, father of Mr. J. W. Jones, present Secretary to the Commissioner of Public Works.



MR. CHAS. WILLCOX.

For many years subsequent to that venture the matter of metropolitan tramway construction remained a mere thought. By popular consent, the honored title of "Fathers of Adelaide's trams" is given to Sir Edwin Smith and to Mr. W. C. Buik, who in the seventies proceeded from South Australia for tours of the Old World, in the course of which they made extensive observations of the road traffic question in England, on the Continent, and in America. In those days South Australia was settling down again after the disquieting period which followed the Victorian gold rush of the fifties. Shipping made Port Adelaide fairly lively, and the arrival and departure of colonists returning from the

Eastern States, of pastoralists who had opened out this colony to beyond Mount Barker, to beyond Port Augusta, and to almost beyond the reasonable confines of suitable lands towards the upper reaches of the Murray, created an imperative demand for the provision of better roads and greater facilities for traffic. These were the days when Messrs. Crimp and Cartright ran a line of buses from the city to the gradually-growing and greatly-favored district of North Adelaide. Forty-five years ago the father of the late James Cowan, M.P., imported some Irish jaunting cars, and also ran a service to North Adelaide. This writer is indebted to Mr. Charles Willcox for the information that Mr. Cowan had his stables in North Adelaide on the site at present occupied by the



MR. A. M. SIMPSON.

Archer-street Methodist Church. It is interesting to note that the same gentleman was practically the founder of the Adelaide Milling Company, had large interests in the Dry Creek Smelting Works, and was one of those who subsequently opened up Broken Hill and connected it with Adelaide by means of a regular horse-waggon service. That he was of a pioneering mind is further emphasised by the fact that he initiated the tramway service in Ballarat, and ran

pleasure steamers to Lake Wendouree in that city. Both he and Mr. Chas. Willcox acquired interests in the firm of John Hill & Co. It is fair to add in this place that Mr. A. M. Simpson is entitled to pioneering honors in regard to the trams. For many years prior to the sale of the trams to the Trust, Mr. Simpson was chairman of the Adelaide and Suburban Co., with which company he has been associated since its inception.

—First Tramway Legislation—

Shortly after the return from Europe of Sir Edwin Smith and Mr. Buik, the question of tramway construction in the city of Adelaide began to take concrete form, and in 1876 the first Tramways Act relating to Adelaide became law. This interesting document was initiated what time Sir Anthony Musgrave was Governor, by a petition which on May 26, 1876, was presented to the Legislative Council by the late Sir Henry Ayers.



SIR E. T. SMITH.

Here, again, the coincidence may be noted that Mr. Gordon Ayers, a son of the gentleman last named, is a leading official of the Tramway Trust. As a re-

sult of that petition, a Bill was drafted and introduced to the House of Assembly, where it was read for the first time on August 30 of the same year. It was passed as Act No. 57 (Private) on September 27, 1876, Sir George Strickland Kingston being Speaker of the House, and was assented to on October 27. That

laide and the town of Kensington and Norwood, and places suburban thereto, and for other purposes." It authorised the construction of 10 miles 65 chains of tram track, the principal routes concerned being a distance of 4 miles 27 chains from Rundle-street to Kensington, a line of 240 chains from North-terrace to

traffic not to exceed 2d. per mile, with a limit of 6d., and the whole of the works to be completed within two years of the date of passing.

—Adelaide and Suburban Tram Co.—

The works which followed on the passage of this Act preceded a period of

to put certain constructive works in hand was introduced to the Legislative Council by Mr. (now Sir) R. C. Baker, and read for the first time on the second day of that month, Sir W. D. Jervois being Governor. This Bill became law, and an Act to extend its provisions, called the Adelaide and Suburban Tramway



KING WILLIAM STREET FIFTY YEARS AGO.

Act was "an Act to authorise the construction, maintenance, and working of tramways for horse traction in and between certain parts of the city of Ade-

Barton-terrace, North Adelaide. Under its provisions the gauge was to be 4 feet 8½ inches, the rails not less than 20 pounds per yard, the rate for passenger

anxious activity in regard to the construction of tramways in Adelaide. In June, 1881, a Bill for an Act allowing the Adelaide and Suburban Tramway Co.

Extensions Act, was introduced within a few months, passed the Legislature, and was assented to on September 22, 1881. This latter was "An Act to authorise the



MR. THEODORE BRUCE "TURNING THE FIRST SOD" FOR THE ELECTRIC TROLLEY CARS IN HACKNEY ROAD ON MAY 17, 1908.



THE ARCHAIC PAST. HORSE CARS IN KING WILLIAM AND RUNDLE STREETS.

Adelaide and Suburban Tramway Co. Ltd. to construct, maintain, and work tramways for horse traction and other motive power in and between certain parts of the city of Adelaide and the townships of Walkerville, Stepney, East Adelaide, and other places adjacent thereto, and in the neighborhood thereof, and for that purpose." This was Private Act No. 238. Closely following, and in the same year, Acts were passed (Nov. 18, 1881) to enable horse tramway traction to be initiated between Adelaide and Parkside, Adelaide and Fullarton, and Adelaide and Parkside South, and in every case construction had to be completed within eighteen months of authorisation. On the same date Acts were assented to authorising similar work to be undertaken by the Adelaide and Hindmarsh Tramway Co., and by the Adelaide and Goodwood Tramway Co., and it is particularly to be noticed in connection with these various measures that they embodied the principle of private ownership, which at that happy time of the world's history enjoyed the confidence of the public, and proved such an inestimable boon and advantage in the striding progress of trade and commerce. Under these various legislative enactments Adelaide became connected with her suburbs, and tramlines after the manner of an octopus' tentacles reached outward from the heart of the city in almost every direction. At the time the system of horse traction was regarded as being the most perfect possible, and Adelaide was a proud city indeed. She was the first city of Australia to adopt horse trams—as she was the last to discard them.

—Progress.—

The various companies met with variable financial success. Some of them got into considerable difficulties, which were inseparable from the commercial ups and downs of a comparatively young colony. In 1885, the Adelaide and Payneham Company got into very serious trouble. Opinions vary as to the cause, but the fact remains that Mr. Chas. Willcox, whose name has already been twice mentioned in this chronicle, became the possessor of that line on what appears to have been exceedingly reasonable terms. In purchasing, Mr. Willcox had to consider the opposition of the bigger Adelaide and Suburban Company, which ran trams to East Adelaide, and to a

large extent tapped the same communities. With commendable wisdom, however, he spent several thousands of pounds in building lines through the Avenues in St. Peters, over which for many years he carried passengers absolutely free, except-

—Financial History of Old Co.'s.—

It may be said that from their inception the financial affairs of the Adelaide and Suburban (the biggest and parent tram company) prospered exceedingly.

company for the year ending November 23, 1875, sets out the capital at £3,994 10/. This was only a preliminary venture, and the balance-sheet of July 31, 1877, shows the capital at £50,000. This sheet includes the amount



Critic photo.

PREPARING KING WILLIAM STREET FOR THE NEW SYSTEM.

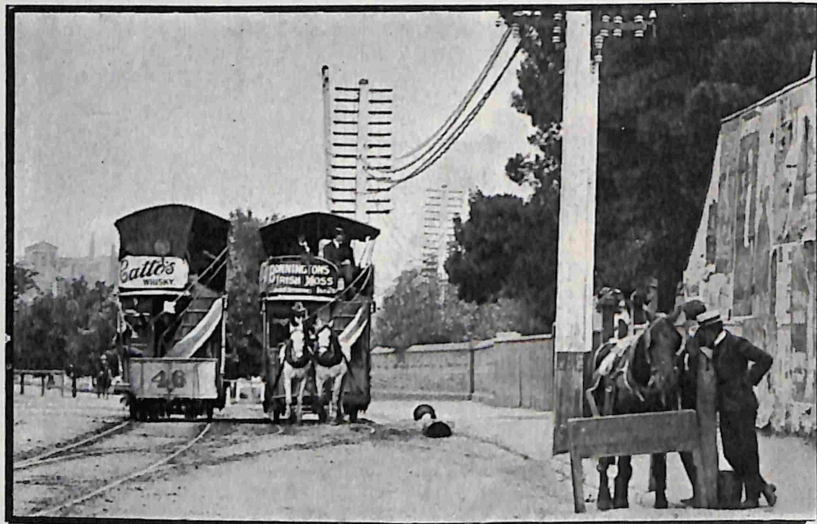
ing in regard to transfers which carried the passengers over his Payneham line, and from which revenue was secured. As events proved, the Eastern district was sufficiently populous to provide revenue for both services, and both were in full operation until the present scheme of electrification was taken in hand.

At the final meeting of the company, held during the present year, the chairman (Mr. A. M. Simpson) stated that for 27 years of the company's existence it had paid dividends which averaged 7¾ per cent. It has paid 8 per cent., 10 per cent., and 12 per cent. successively. The first balance-sheet of the

of £4,871 for sleepers, &c., on construction account. Up to January 31, 1878, the amount expended by the company included—Plant account, £19,931; building account, £1,347; land account, £1,246; "preliminary expenditure," £1,331; "construction account," £886. The following half-yearly balance-sheet includes the item

"traffic returns" from June 10 to July 31, £891 3/6. This record of the official document, dated July 31, 1878, is apparently the first showing any returns to the profit of the parent company.

At this period the construction account totalled £19,050, and during the half-year under notice the profit and loss account shows that wages totalled £2,733, horse feed, £2,749; these being the two biggest items.



THE OLD CARS IN POOLE STREET, NORTH, ADELAIDE

—Starting Adelaide's First Tram.—

In order to comprehend the peculiar growth of our tram system, it may be well at this point to state that the first tramline in Adelaide was constructed by the Adelaide and Suburban Company between the city and Shipster's-road, Kensington Park, and the first trams running for fares completed the journey on June 10, 1878. On the first day six trams were run, and the business steadily increased. The North Adelaide line was taken in hand immediately, and completed so that the first car was enabled to run on December 10 of the same year. According to the balance-sheet, dated January 31, 1879, the traffic returns are set down as follows:—

Kensington line, June 10,			
1878, to Jan. 31, 1879 ..	£7,133	6	3
North Adelaide line, Dec. 10.			
1878, to Jan. 31, 1879 ..	1,299	2	8
Advertising in Cars and			
Sundries	50	11	6
Total	£8,483	0	5

—Bird's Eye of Progress.—

In the following half-year to August 23, 1879, the directors reported "steadily increasing traffic," and it is curious to observe that they found it wise to place on record that they "are glad to find that the public feeling in favor of tramways is increasing, and that they have been requested to extend their lines northwards and eastwards." For the same half-year the manager (Mr. Thos. Jones, who is now superintendent of stock for the Tramways Trust, and who remained as manager of the company up to the time of its sale to the Trust) reported that the total number of passengers carried for the half-year had been 1,041,536, that the company had 200 horses, that the number of passengers travelling by the cars averaged about 6,000 per day, while 17,000 per day could be carried, that 22 cars were in use, and that while some few repairs were necessary to permanent way, the whole of the plant of the company was in good working order. On March 22, 1881, the first dividend of 4/ per share was made payable, which absorbed a sum of £2,030 16/. For the year ending July 31, 1880, the working expenditure of the company amounted to £37,000. Thus, year by year, increases continued in the extent of the company's operations, in traffic receipts and many other directions.



UNDER THE OLD SYSTEM EXTRA STRENGTH WAS REQUIRED FOR INCLINES. THE EXTRA HORSE IN WORK.

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ADVERTISING RATES ON APPLICATION.
G. W. ILLINGWORTH,
Secretary

In the first half-year of 1886 the company's cars travelled 434,975 miles, making 76,133 trips over 35 miles of tramline, the work being performed by 91 tramcars and 421 horses. In that half-

£22,805 13/6. A dividend of 2/6 per share absorbed £5,200. For the first half of 1902 a dividend amounting to £6,500 was paid, £1,000 remaining to the credit of profit and loss; traffic receipts

engine specially designed for tramways was creating a considerable amount of talk in England. Sir Edwin Smith, while in England, had opportunities of personally investigating the merits and demerits of this particular form of street traction, and from close observation came to the conclusion that the large amount of dust on our roads made it almost certain that the engine was not suited for Adelaide. As a result of the reports of the abovenamed gentlemen, the Adelaide and Suburban Co. adopted horse-power as their means of traction. But, following the beginning of work by the parent company, a large number of other companies sprang into being, among these being the Unley and Mitcham, Parkside, Hindmarsh, and Payneham.

to try the so-called smokeless engine, and one was imported and fitted to a car. Sir Edwin Smith (to whom the present writer is indebted for many interesting particulars) was among those who essayed the first trial trip of the new tramcar. It was a "Merryweather" engine, and owing to the fact (it is stated) that the working parts were down near the roadway and exposed to dust, the trial was anything but satisfactory. The present writer is informed that the car never actually ran for traffic, and that shortly afterwards the engine was dismantled and degraded to a humble position as motive power in a chaff mill. On November 7, 1892, the Adelaide and Suburban Co. extended their operations to Walkerville, and very



WOODEBLOCKING IN KING WILLIAM STREET.

year, a dividend of 2/6 was declared, which absorbed £6,500. As has been set out, when the company started work it was capitalised at £50,000 in 10,000 £5 shares. At the end of 1878 extra shares were issued, which brought the capital up to £65,000, and in 1886 the capital was further increased to £130,000, in 26,000 shares at £5, at which it stood until it was acquired under the present operations. In 1897, Mr. Jones' report showed that for the first half of that year the cars travelled 628,853 miles, made 118,322 trips, carried 2,598,345 passengers, while the plant included just on 40 miles of tramline, 564 horses, 85 trams, 6 carettes, one wagonette, and one omnibus. The balance-sheet for the same half-year gives the traffic receipts at £26,334 9/6, and working expenditure at

amounted to £24,785; the cars ran 111,892 trips; the number of fares paid equalled 3,730,022; the cars travelled 674,699 miles, and the company's plant had extended to 90 tramcars, 636 horses.

—The First Motor Tram.—

The commencement of operations by the Adelaide and Suburban Company in 1878 was preceded by a considerable amount of argument and negotiation, and was assisted largely by the investigations of Sir Edwin Smith, Mr. W. C. Buik (first chairman of the A. & S. Co.), and Mr. A. M. Simpson, who during various trips to Europe and America enquired very carefully into the tramway methods then in vogue. It was about that time that the so-called "smokeless" motor



"CONCRETE-MIXERS" MAKING CONCRETE FOR THE TRACK BED IN KING WILLIAM STREET.

—Extending Operations.—

Of this lot, Mitcham and Hindmarsh (1881) were the first to be opened. The directors of the Mitcham service decided

shortly afterwards opened the Maylands line for traffic. The company's first cars were imported from the firm of Stephenson, in New York. Subsequently Messrs. Duncan & Fraser built cars for the com-



A VIEW OF THE GREAT "FOUR-WAY CROSSING" AT VICTORIA SQUARE. THE POST OFFICE AND TOWN HALL IN THE DISTANCE.

pany, but for the last 10 years of its existence the company built its own cars at its shop in Kensington. About 1895 the Adelaide and Suburban Co. purchased the Enfield and Prospect lines, which had previously been built by a separate company, and had been twice sold before being absorbed by the parent company. In nearly every case of the tramlines laid by the oldtime companies the rails have been 45 or 46 lbs. to the square yard.

—The Snow Scheme.—

The beginning of the present century was characterised by a serious effort to change the old order of things for a new. Two separate efforts were made in this direction, and although both were abortive, they must be regarded as having lent considerable aid towards the happy consummation now in view. One of these was an effort by Mr. Francis H. Snow on behalf of certain capitalists to complete arrangements for the electrification of the Adelaide tramway system by means of a private company. The big people behind Mr. Snow were the British Westinghouse Electric and Manufacturing Co., Ltd., and Callender's Cable Construction Co., Ltd. Under this proposal was anticipated the purchase of all the tramways in the metropolitan area and the construction of about 70 miles of new track, on which to run the modern electric service. The company was to have exclusive rights for a period of 21 years commencing December 31, 1901. The proposals under Mr. Snow's scheme, and as embodied in a Bill which was subsequently before Parliament, were practically identical with the provisions of the present Act.

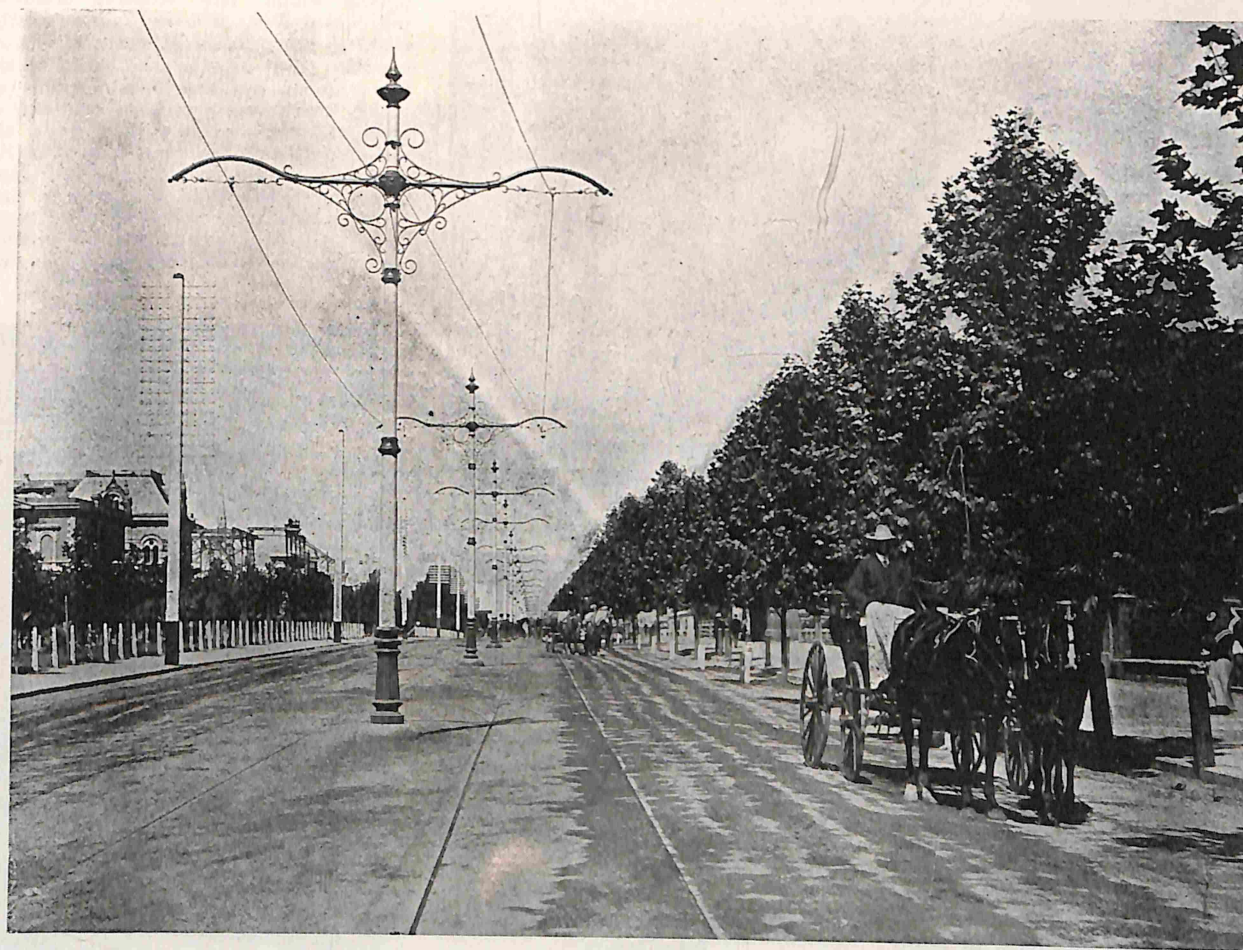
—The Corporation Scheme.—

The other attempt at electrification took the form of a scheme which provided for the municipalisation of the existing tramway services, and their subsequent conversion into one electrically propelled. At that time Mr. A. W. Ware was Mayor of Adelaide, and many meetings were held by the tramways committee appointed by the Corporation of Adelaide. This committee consisted of the Mayor (Mr. A. W. Ware), Aldermen Bruce, Reid, and Wells, and Councillors Duncan, Jones, Myers, Packer, and Ponder, with the Town Clerk (Mr. T. G. Ellery) as secretary. These gentlemen went to very considerable trouble

and collected a tremendous amount of information on the subject in the course of the year 1901. The City Council (or a majority) was of opinion that the private ownership of electric trams within the city was not consistent with the best interests of the metropolis, and

assessments equalled £965,588. It recommended that a Board of ten persons be appointed from the city council and that authority be obtained from Parliament to secure the purchase of the whole of the existing tramways, with power to borrow money for that pur-

for the leasing of the same for a certain term of years. It was suggested also that should no favorable offer for the leasing be received the corporation itself might enter upon the actual working of such electric service. This final report of the committee was subscribed to by



BEAUTIFUL NORTH TERRACE—THE FIRST COMPLETED ELECTRIC TRACK.

pledged itself to do everything within its power to secure municipal ownership. The committee referred to above based its resolutions and recommendations on the premises that the population of the city at that time was 38,981, and of the suburbs 86,018, and that the total as-

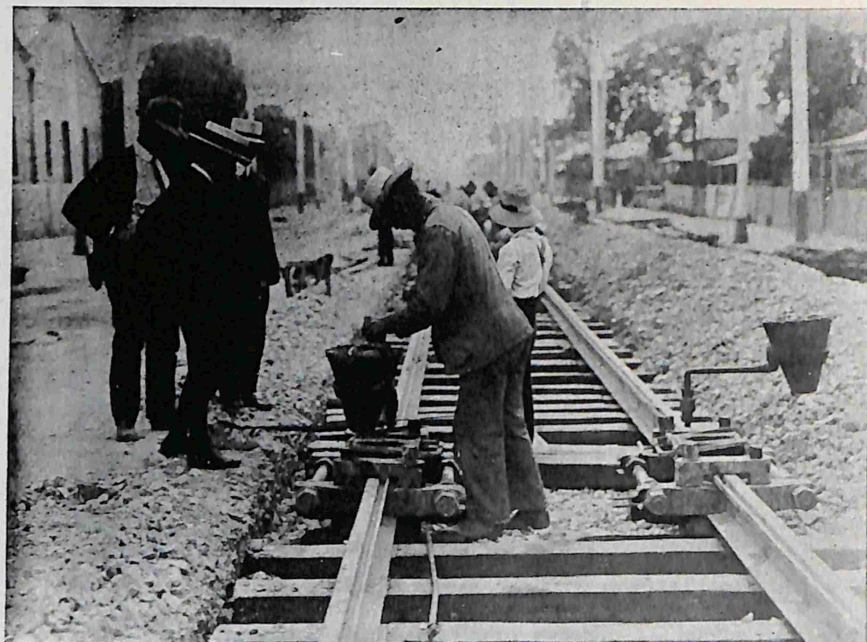
pose. The estimated cost was given at £400,000. The committee further recommended that the tramways having been secured by the Corporation, application should be invited from all parts of the world for offers to convert the whole system into electric traction, and

eight members, but the Mayor (Mr. A. W. Ware) and Mr. Alderman Bruce, dissented from the finding of the committee, the former on the ground that the Snow Tramway Bill (then before Parliament) would fulfil all the requirements of the service.

—Some Interesting Figures.—

The investigation of the corporation committee elicited the interesting facts that there were then (1901) existing 74 miles of tramlines, that 1,062 horses

given here have to be taken as representative in a general sense only. As a matter of fact, the Engineer-in-Chief drew out a scheme under which electrification would be accomplished at a cost of £544,665.



PREPARING FOR A "THERMIT" WELD.

were employed, and that 162 cars were in use, that directors' and secretarial fees and salaries absorbed just on £2,000 per annum, that nearly 11,000,000 passengers were carried per annum, that the gross receipts of all the companies were just on £101,000 per annum, and the gross expenditure £76,000 per annum, while the total amount of capital employed was equal to £277,094. Four different schemes were submitted in detail by the committee, which varied in cost from £610,000 to £710,000, being equal to from £8,243 per mile to £9,595 per mile. It was estimated that a total of £962,000 would have to be borrowed for the proposed changes, and that after paying all expenses a net profit of £11,000 per annum would be returned to the municipality, which sounded very well. Several different sets of figures were evolved by the committee in the course of its deliberations, consequently those

—Mr. J. H. Packard's Schemes.—

The schemes put forward by Mr. J. H. Packard in 1900 were not entertained by the city or suburbs. Mr. Snow's Bill passed into law, but, for reasons which need not be entered upon here, its provisions never came into actual operation.

—The City Council's Committee Dissolved.—

Immediately upon the appointment of the new Council in December, 1901, a special meeting of the Council was held, when the tramways committee appointed in the previous May was dissolved, and all its resolutions were rescinded. A fresh committee was appointed to safeguard the interests of the Council in reference to the Snow Bill, and a petition was ordered to be presented to Parliament in favor of the passing of the Bill with amendments. The com-

mittee met during 1902, but no recommendations were sent forward.

—Preliminary Work.—

In 1906, arrangements having been completed so far as the purchase of the tramways was concerned, a period of quietude naturally followed, during which the existing tramway companies were drawing up schedules showing their financial position. From a public point of view the terms of the Government purchase was a point on which there was a great divergence of thought. It was felt that while the old horse trams had been a slur on the fair name and a blot on the fair fame of the city, they had at the same time given consistently fair financial returns to shareholders who, not unnaturally, were indisposed to divert from their own

looked at times as if negotiations would fall through, and Adelaide for another period be deprived of the sweet hope of modern street traction.

—Actual Purchase.—

Events, however, progressed with a fair amount of happiness and unanimity of purpose, and the daily papers of March 28, 1906, contained the inspiring news that the whole of the city tramways had been purchased by the Government for the sum of £280,000. This announcement was hailed with unfeigned delight by the whole of the residents of Adelaide. The vendors were satisfied, and with good reason. For not only had they enjoyed a long period of dividend-paying investment, but the price which the Government paid was one which allowed ample return for the



WELDING THE RAILS BY THE "THERMIT" PROCESS. THIS ENSURES A SMOOTH JOINT.

pockets the golden stream of dividends which, without intermission, had flowed for many many years. Thus there was a desire in some quarters to ask a price for the trams which was absolutely too high to be considered from a reasonable business point of view; and it

capital which shareholders had originally invested. On the other hand, the purchase of the old system was the first tangible step authoritatively taken towards the passing of the old obsolete horse trams and the initiation of the new method of street traction.

In the conduct of negotiations for the purchase of the trams the Commissioner of Public Works (Hon. T. Price), to whose Government is almost entirely due the credit of the new order of things, received very great assistance from the Chairman of the Adelaide and Suburban Tramway Co., (Mr. A. M. Simpson), the then Mayor of Adelaide, and the Mayors of the suburban corporations, together with the Town Clerk of Adelaide and Mr. H. A. Parsons, as well as a large number of other officials, while the success of the deal was considerably forwarded by the strong support afforded by the Press of the State. A satisfactory tentative purchase having been effected, the Government without delay set to work to prepare a Bill embodying not only terms of purchase, but providing machinery for work under the new order of things.

—The Present Act.—

As a result of more or less persistent agitation, the matter of electrifying the Adelaide Tramway system was climaxed in 1906, when, after persistent endeavors, negotiations had so far proceeded that a Bill for an Act to provide legislative authority was drafted and passed both Houses. This historical measure is No. 913, and was assented to by His Excellency the Governor on December 22, 1906. It is called "an Act to authorise the Government to purchase certain tramways and for a Municipal Tramway Trust to construct and erect tramways, and for other purposes." It is particularly broad and lucid in its provisions, and provides, first of all, for the purchase of the existing horse-tram systems, which had served the metropolis for so many years.

—Terms of Purchase.—

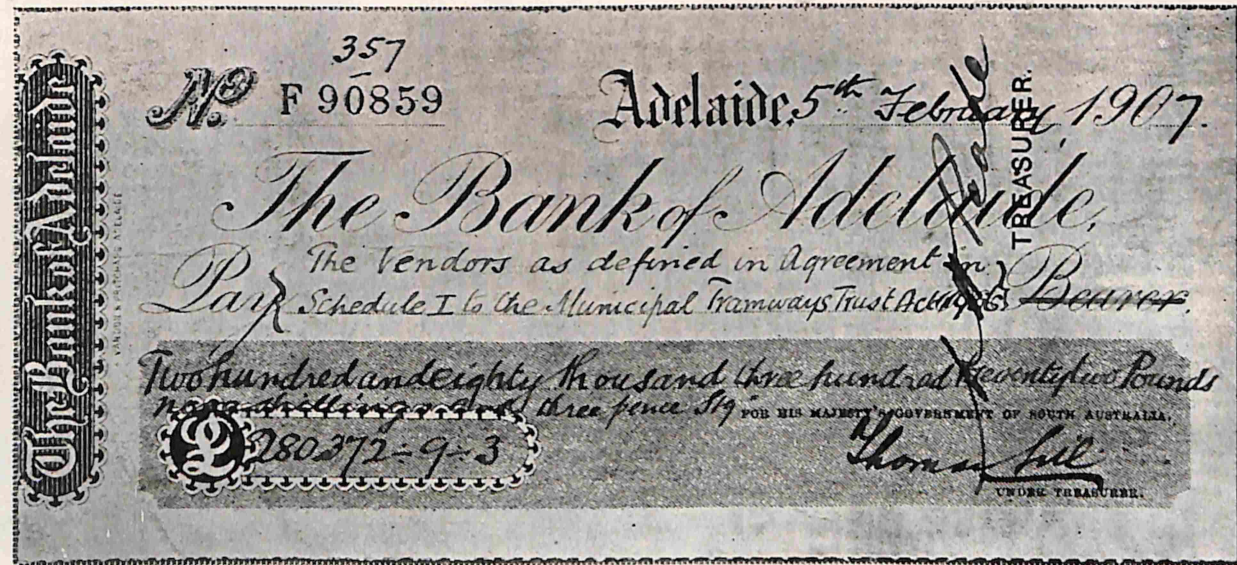
Under it an agreement (Schedule 1) was entered into between the Government and the Adelaide and Suburban, the Adelaide, Unley, and Mitcham, the Adelaide and Hyde Park, the Parkside, the Adelaide, Hindmarsh, and Henley Beach Tramway Cos., and Mr. Chas. Willcox (proprietor of the Payneham and Paradise and Goodwood Tramway lines). The agreement sets out that the Government shall purchase from the other parties to the agreement all their tramway properties, together with plant, &c., necessary for working the same, for the sum of £280,000. Excluded from the purchase in

the schedule were (1) cash in hand; (2) debts due; (3) invested funds; and (4) fodder in stock or contracted for by the then existing tramway companies, and it was arranged that the receipt signed by Messrs. A. M. Simpson, Wm. Shierlaw, A. F. Weaver, W. Hamilton, G. A. Wyld, Chas. Willcox, and J. J. Bodley, should be sufficient discharge in regard to the above-named companies for the payment of the purchase-money by the Government.

cham, Payneham, Prospect, Walkerville, West Torrens, Woodville, and Yatala South. The Trust so constituted was vested with plenary powers in regard to the working of the horse tramways and the construction of such works as were necessary to supersede them.

Provision was made for (1) the payment of £1 per member of the Trust per meeting, with a minimum of £75 per year (exclusive of the chairman, who receives a salary of £250 per annum);

These gentlemen, therefore, had the honor of being first members of the Trust whose important duties included the provision of a new and up-to-date system of electric passenger traction for the city and suburbs of the fair city of Adelaide. Under the Act, the Trust was required within three years from December 31, 1906 "to form, lay down, work, and construct a system of tramways, the trams whereon shall be propelled by electric energy, with or without overhead trol-



FACSIMILE OF THE GOVERNMENT CHEQUE FOR £280,372 9/3 PAID TO THE OLD TRAM PROPRIETARIES.

—The Trust.—

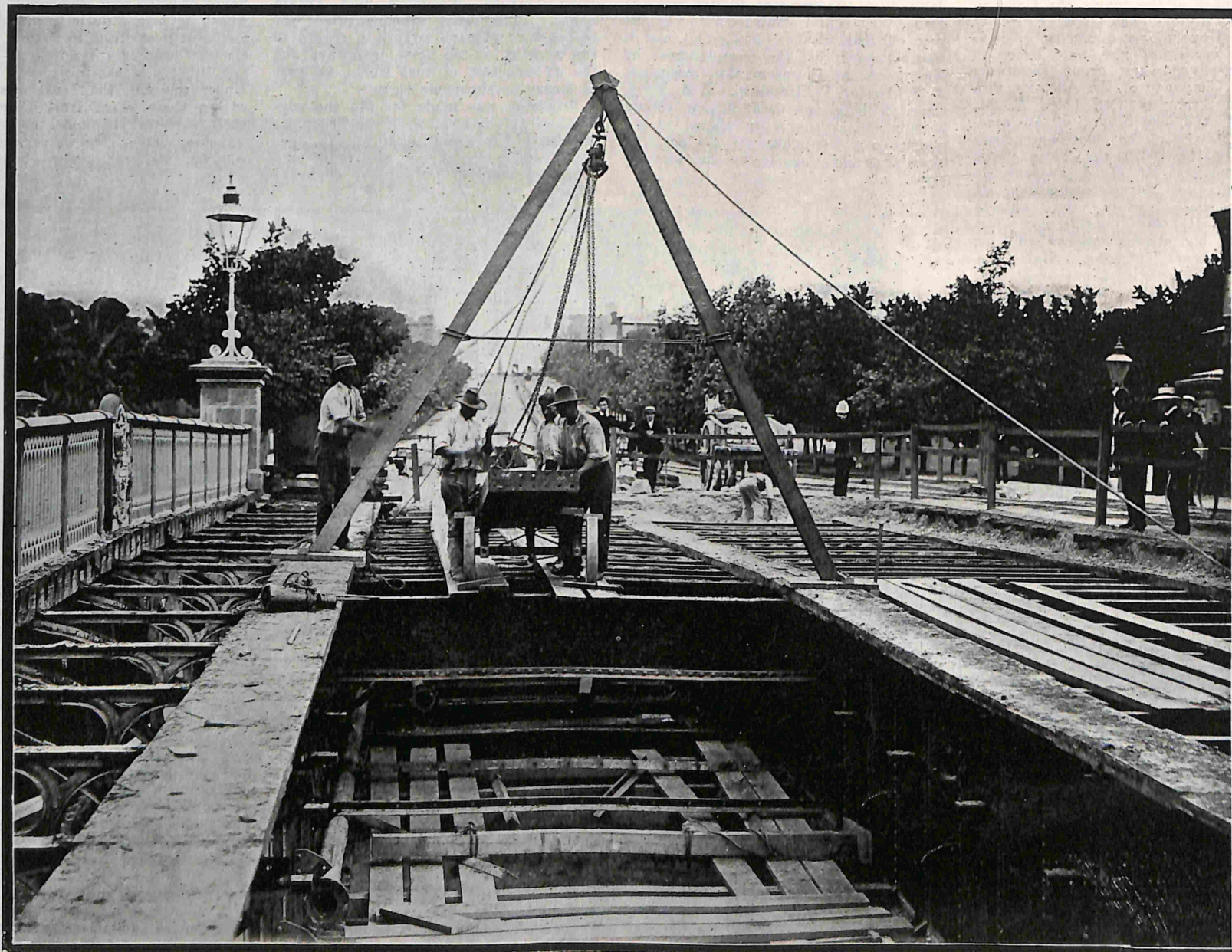
Under the Act provision was made for the whole of the tramway properties acquired by the Government to be vested in a Municipal Tramways Trust, which should consist of eight members. Of these, two were appointed by the Government, two by the Corporation of Adelaide, two by the suburban corporations, and two by the district councils within whose boundaries the new tram system was to be extended. The corporate bodies actually taking part in the Act were the Corporation of the city of Adelaide, the suburban corporations of Unley, Kensington and Norwood, Hindmarsh, St. Peters, and Thebarton, and the District Councils of Burnside, Campbelltown, Mit-

(2) the appointment of members for a period of six years, subject to the provision that half the members should retire every alternate three years; and (3) power to create such legislative machinery as would enable members to carry out the duties with which it was entrusted. Early in 1907 the Government appointed Messrs. A. B. Moncrieff (Engineer-in-Chief) and Thomas Gill (Under-Treasurer) as their nominees on the Tramways Trust, and subsequently the municipal bodies concerned appointed the Mayor of Adelaide (Mr. Theodore Bruce) and Alderman J. Baker (Adelaide Corporation). Messrs. R. Cruickshank (St. Peters), H. J. Holden (Kensington and Norwood), J. T. Mellor (Walkerville), and A. C. Sanders (Prospect).

leys." It was further set out that "such tramways shall run from some point or points in Adelaide to some terminal point in North Adelaide, Walkerville, Kensington, Maylands, St. Peters, Payneham, Parkside South, Unley, Hyde Park, Hindmarsh, and Henley Beach." The Trust was given exclusive rights in regard to tramway traction within a radius of 10 miles from the General Post-office.

—Financial Obligation.—

The financial obligations imposed upon the Trust are somewhat difficult to summarise, but, broadly, it was enacted that the State Treasurer was authorised to pay the £280,000 purchase-money for the horse-trams, together with the costs



STRENGTHENING THE CITY BRIDGE. JAMES MARTIN, LTD., CONTRACTORS, GAWLER.

incidental to purchase, and for this purpose to issue either inscribed stock or Treasury bills having a currency not exceeding 30 years, bearing interest not exceeding 4 per cent., and being issued at

central bodies consented, and to issue debentures for loans thus raised, and the Treasurer on his part was required to invest all capital moneys received by him from the Trust in a sinking fund, to

division of these liabilities, as between the five corporations and the nine district councils is clearly set out in a clause which fixes the assessed annual value of ratable property in each corporation and district council, the Trust liability being proportionate to the sums fixed as above. In this connection it is interesting to note that the assessed annual value of ratable property in the corporations is fixed as follows:—

Unley	£127,000
Kensington and Norwood	76,000
Hindmarsh	58,000
St. Peters	55,000
Thebarton	34,000

Total £350,000

It is also to be observed that the assessed value of ratable property in the interested district councils amounts to £242,339. There is a general belief among municipal authorities that the rates already declared in relation to tramway liability will be quite sufficient for the purpose indicated. Indeed, Mr.

—General.—

In the general terms of the Act the Trust is empowered to tear up and remake certain roadways, such work being necessary for the fulfilment of its duties, but is enjoined to carry out the work in conjunction with the local municipal bodies, and with as little inconvenience as possible to the general public. Under Clause 66 the Trust is required at all times to "keep all its undertakings in good repair and working order."

When the Bill was before the Houses of Legislature, considerable discussion took place in regard to the possible and probable cost of the undertaking. It was alleged that the cost of electrification and up-keep would be too much commensurately with the possible income, while also there were those who although hailing with delight the prospect of improved and modern street locomotion, were pessimistic in regard to the financial aspect of the whole scheme. In view of these pronouncements, Parliament



LOOKING ACROSS HINDMARSH SQUARE ALONG GRENFELL STREET.
MANY BEAUTIFUL TREES HAD TO BE DESTROYED.

a price which was left to the Treasurer's discretion. The Trust having taken over the existing trams as going concerns, had to apply the current revenue to current expenditure, and, in addition, to make provision for the repayment to the State Treasury of moneys advanced. These moneys are to be repaid by the Trust in 60 half-yearly amounts, provision being made for interest, and the Act requires the Trust, having made provision for (1) current expenditure, (2) a 2½ per cent. renewal fund, and (3) estimated future half-yearly expenditure, to pay the State Treasury the residue (if any) on receipts every half-year.

The Trust was empowered to borrow moneys for the extinguishing of liabilities, or to do anything in terms of the Act, provided that the interested muni-

be applied towards the redemption of the inscribed stock or Treasury bills, in regard to which the moneys had been raised.

—Differential Liability.—

An important phase of the whole question is that of the liability incurred by the State on one hand and the corporate bodies represented on the Tramways Trust on the other. Full provision is made by the Act as to the quota of liability allotted for the definite purpose, and it sets out that the liability is to be divided into three parts, one-third of which is charged to the city corporation, one-third jointly by the several suburban corporations, and the remaining one-third by the interested district councils. The



PREPARING THE TRACK, HINDMARSH SQUARE.

R. Cruickshank, Mayor of St. Peters, and a member of the Trust, definitely expressed his belief and his sanguine hopes in this matter to his council.

carried Clause 69, which limits the cost of the tramways. It sets out "the total cost of the conversion of the tramways from horse to electric traction, including

THE TRAMWAYS OF ADELAIDE.

all rolling stock, power stations, and all electric equipments, workshops, sheds, and machinery used in connection with the undertaking, shall not exceed £12,000 per mile on the average." An important provision is that neither the Trust nor its property shall be subject to taxation, either general, special, or local. The Trust is also given authority under Section 86 to purchase or otherwise acquire any railway property, together with its rights, provided that the consent of the Government and the Railways Commissioner be obtained for such a purchase.

Taken as a whole, the measure framed as a basis of operations for the Tramways Trust, is concise and lucid. Without laboring at detail, it provides all necessary machinery for the object which it has in view. It provides for the punishment of offences under by-laws and regulations, and, in short, may be regarded as not only an ideal measure, but as a monumental example (rare enough in these days) of legislative wisdom.

—The Tramways Engineer.—

Having been formed, the Trust appointed the Engineer-in-Chief (Mr. A. B. Moncrieff) as its Chairman, and immediately set about securing the services of a tramway engineer, under whose control should be the exacting actualities of the great undertaking. Applications were called for, and in May, 1907, the appointment was conferred on the present Engineer and General Manager, Mr. W. G. T. Goodman. This gentleman came from New Zealand, where he had built up a reputation as a tramways engineer than which nothing better could be desired. It may be stated here that the choice of the Tramways Trust has been amply justified. Not only has Mr. Goodman shown a wise choice in the matter of recommending routes and great technical knowledge in the selection and ordering of material for the new trams, but he has exhibited such expedition that already the main lines have been laid and are almost ready for traffic. Towards the end of May Mr. Goodman took up his duties in Adelaide, and he lost no time in initiating the necessary arrangements for beginning actual work. Having obtained

suitable offices, and surrounded himself by a staff which has proved its efficiency, he formulated a scheme and prepared a report delineating the suggested electric routes and the details of the general scheme for electrification. The work included setting out such important recommendations as to whether the whole of the proposed scheme should be let

—The First Contracts.—

During the first twelve months of office the following contracts were let:

Contract No. 1.—Steel rails and fishplates, c.i.f.—Messrs. Elder, Smith, & Co., Limited, for the North-Eastern Steel Company, England £47,243



MR. W. G. T. GOODMAN, J.P., M.Inst.C.E., M.I.E.E., &c.
Chief Engineer and General Manager.

under one contract or divided into several contracts, and having decided upon the latter course, and the Trust having acquiesced in his suggestion, Mr. Goodman proceeded to call for the contracts.

Contract No. 2.—Hardwood sleepers, c.i.f.—Messrs. Millar's Karri and Jarrah Company (1902), Limited. 20,562
Edward Lane. 1,917

Contract No. 2A.—Ironbark sleepers, c.i.f.—Messrs. Geo. Wills & Co.	979
Contract No. 3.—Special work, points and crossings, c.i.f.—The United States Steel Products Export Company, for the Lorain Steel Company, Penn., Pa.	14,660
Contract No. 4.—Track Fastenings, c.i.f.—Messrs. Geo. Wills and Co.	2,112
Contract No. 5.—Bonding material, c.i.f.—Messrs. von. Drehnen & Co., for Felten Guillaume Lahmeyerwerke	1,573
Contract No. 7.—60-lb. Tee rails and fishplates, c.i.f.—Messrs. Noyes Brothers' Proprietary, Limited, for Stahlwerks Verhand.	2,101
Contract No. 8.—Construction of permanent way and erection of poles—Messrs. Smith and Timms	163,831
Contract No. 10.—Portable offices—Messrs. Milburn and Jeffrey.	58
Contract No. 11.—Trolley wire—Messrs. Geo. Wills & Co., for Messrs. Frederick Smith & Co., England	5,670
Contract No. 12.—Steel poles, c.i.f.—Messrs. Geo. Wills and Co., for the National Tube Company	9,796
Contract No. 15.—Overhead equipment—The British Insulated and Helsby Cables, Limited.	25,884
Contract No. 32.—Trucks, wheels, and axles—Messrs. Noyes Brothers' Proprietary, Limited, for Messrs. J. G. Brill Co., Philadelphia, Pa. . . .	2,918
Contract No. 33.—Magnetic brake equipments—Messrs. Noyes Brothers' Proprietary, Limited, for the British Westinghouse Company, England . .	9,296
Contract No. 61.—Storage battery No. 1—Mr. W. Steele, for Tudor Battery Company, England	5,319
Contract No. 66.—Demolition of buildings—Mr. F. J. Woods	61
Contract No. 75.—Fire protection apparatus—Messrs. Wormald Brothers and Wears . . .	4,588
Contract No. 76.—Supply of timber—The Globe Timber Mills Company.	394
Total	£319,863

—Counting the Cost.—

These, it will be noticed, embody practically the whole of the essentials under the new scheme, but in addition to these there were many others which were

during the first twelve months of Mr. Goodman's regime totalled £457,000.

—Beginning the New Order.—

Perhaps the most important of all

Smith & Timms accepted their contract on March 31, 1908, and commenced operations on May 21 of the same year, when Mr. Theodore Bruce, ex-Mayor of Adelaide, turned the first sod of the new lines in Hackney-road opposite the present car barns. Since May 21 only seven months have elapsed, and during that time the contractors have successfully laid practically the whole of the permanent way inside the boundaries of the city proper, and have extended their lines to Walkerville, to East Adelaide, and along North-terrace west towards Thebarton and Henley Beach. The British Insulated and Helsby Cables, Ltd., contractors for the overhead gear,

and Messrs. Neyes Brothers, contractors for the electric motors for each car, contributed in such a degree that they also must be included in the general encomiums due to all who have contributed to the initial success achieved.

—Difficulties of Change.—

Not many people outside of official cognisance can appreciate the many difficulties of changing the old order into the new—difficulties that are so well illustrated by the photographs accompanying this article. To the lay mind it seems the easiest thing in the world



STAFF OF MESSRS. SMITH & TIMMS.

equally necessary, although not so prominently before the lay or public eye. These included a supply of car bodies, underground feeds, battery and electric equipments for converter stations, the converter stations themselves, and buildings for the car depot, and on the same block of land on Hackney-road the administrative block of buildings, which includes offices for the Tramway Trust and its officers. These various contracts were subsequently let, and embodied an estimated expenditure of £137,000. It is almost needless to say—for these matters have been prominently before the public for many weeks past—that work under these contracts has proceeded, and is still proceeding, with celerity and dispatch. Contracts let

steps taken in the scheme; at any rate, that which appeals most strongly to the public, is that which provides for the construction of the permanent way and the overhead supply of electric power. The permanent way contract was let to Messrs. Smith & Timms. It covers about 55 miles of tramline, much of which is double track, and the laying of which includes "four way crossings" and other complications, which makes it one of the most important contracts of the kind ever let in the world. To show the excellent work that has been accomplished both by the Executive of the Trust and the permanent-way contractors and the contractors for the overhead gear, it may be said that Messrs.



LIFTING THE OLD RAILS.

also so expedited their work that the North-terrace gear was completed and the first car was enabled to run on November 30. Towards this desirable

to let a few contracts and put down a few miles of new tram rails, construct a few electrically-propelled tramcars, and import and erect the poles, wires, and