VALUATION OF CARS.

SECRETARY'S NO. 2 SCHEME.

Assumed Facts:-

  (a) Estimated "Cost new"   £ 210.

  (b) Total useful life......   60 years.

  (c) Cable system to be discarded in 10 years.

  (d) Scrap or residual value..... £ 20.

DEPRECIATION.- Adopting the "Straight Line" method of depreciation, a sum equal to $1\frac{2}{3}\%$ per annum upon £190 should be written off each year (equal to £3.167 per annum) to reduce the book value to £20 in 60 years.

The Depreciated Value of a 30 year old Car would therefore be:-

Cost new..	£ 210.
Less 30 x £3.167....	95.010.
Value in 1916.........	£ 114.990

SUPERSESSION.- Assuming a purchase in 1916 @ £114.99 the Board's depreciated value in 1926 would be...

	£ 114.99
Less 10 x £3.167.....	31.67
	£ 83.32

It is assumed that the car will be worth £20 in 1926 when the system is electrified. Therefore the Board would require to write off £63.32 as a loss in 1926 owing to supersession.

It would therefore be equitable for the Company to allow the Board the Present Value (in 1916) of this amount, viz. £63.32.

The present value of £1 payable in 1926 at 5% is £.6139.

The present value of the car in 1916 is therefore

Value in 1916.....	£ 114.990
Less Present Value of loss to be incurred in 1926...........	38.872
Value of Car in 1916 less depreciation and supersession.....	£76.118

Using trailer cars
as trailers for
electric traction

Board's Ledger Accounts (in 1926) of Various Cars.

30 years.- (Period Car has been in use).....

Cost New 1916.....	210.
Less Depreciation to 1916 3.167 x 30.........	95.01
Depreciated value in 1916...	114.99
Less Depreciation to 1926 3.167 x 10.....	31.67
	83.32
Less Residual Value......	20.00
Amount to be written off in 1926...	63.32
Depreciated value in 1916..	114.99
Present Value of £63.32 payable in 1926......	38.872
Present Value of Car....	£ 76.118

25 years.-

Depreciated value in 1916 (see Examples in No. 1 Scheme..	130.825
Depreciation to 1926......	31.67
	99.155
Residual Value......	20.
To write off in 1926.....	79.155
Value in 1916...	130.825
Present Value of £79.155	48.593
Present Value of Car......	82.232

20 Years. Value in 1916.

Value in 1916.	146.66
Depreciation	31.67
	114.99
Residual Value	20.
	94.99
Value 1916...	146.66
Present value of £94.99...	58.314
Present Value of Car...	88.346

15 Years.-

Value 1916..	162.495
Depreciation...	31.67
	130.825
Residual Value..	20.
	110.825
Value 1916..	162.495
Present Value of £110.825	68.035
Present value of Car..	£ 94.460

10 years.-

Value 1916...	178.334
Depreciation..	31.67
	146.664
Residual Value..	20.
	126.664
Value 1916..	178.334
Present value of £126.664	77.759
Present Value of Car...	£100.593

5 Years.-

Value 1916...	194.165
Depreciation..	31.67
	162.495
Residual Value..	20.
	142.495
Value 1916...	194.165
Present value of £142.495	87.477
Present value of Car..	£ 106.688

1 Year.-

Value 1916..	206.833
Depreciation..	31.67
	175.163
Residual Value..	20.
	155.163
Value 1916..	206.833
Present value of £155.163	95.254
Present value of Car..	£ 111.579

0 Years.-

Value 1916..	210.
Depreciation	31.67
	178.33
Residual Value	20.
	158.33
Value 1916...	210.
Present Value of £158.33	97.198
Present Value of Car	£ 112.802

Assume that the Standard Cars are worth an average of £190 each.
The later cars may be worth a little more and the earlier cars
a little less.

Assume a Residual or Scrap Value of £20.

Assume that the cars were brought from the Melbourne Tramway &
Omnibus Co. by a third party who entered into a contract to
rent them to the Board for 10 years at a rental equal to 6%
per annum on £190, viz. £11.4

The Cars would then be worth to the third party the Present Value
of an annuity of £11.4 at say 5% with a residual value in 1926
of £20 for each car.

The present value of £1 per annum for 10 years is
                    £7.721 x £11.4   = £ 88.019
        Present Value of £20 payable in 1926...   12.278
                                                    £100.297

The average value of the cars would thus be £100.297

Third Party's Ledger Account.   EXAMPLE.

Purchase of Standard Car at £100

| At end of | Investment. | Annual Rental from Board £11.4 per annum. | | Amount still invested |
		For Interest at 5%	Reduction of Principal	
1st year	£100	5.00	6.4	93.60
2nd "	93.60	4.68	6.72	86.88
3rd "	86.88	4.34	7.06	79.82
4th "	79.82	3.99	7.41	72.41
5th "	72.41	3.62	7.78	64.63
6th "	64.63	3.23	8.17	56.46
7th "	56.46	2.82	8.58	47.88
8th "	47.88	2.39	9.01	38.87
9th "	38.87	1.94	9.46	29.41
10th "	29.41	1.47	9.93	19.48

Residual Value £19.48

STANDARD CAR.

RESULTS OBTAINED BY SECRETARY'S No. 1 & No. 2 SCHEMES.

Age of Car.	No.1 Scheme. Car Value in 1916.	No.2 Scheme. Car value in 1916.	No.2 Scheme. in excess of No. 1	No. 2 Scheme. less than No. 1	No. 3 Sch
30 years	71.467	76.118	4.651		Average
25 "	79.612 87.926 82.232		2.620		for all
20 "	87.766	88.346	.580		ages
15 "	95.919	94.460		1.459	£100.297
10 "	104.065	100.593		3.472	
5 "	112.218	106.688		5.530	
1 "	118.735	111.579		7.156	
0 "	120.372	112.802		7.570	

The increase value of the younger cars represents the theoretical
saving upon repairs and renewals.   These charges I believe
amount to about £10 per annum. The difference in value
between a car one year old and 30 years old is £47, say 5
years' repairs and renewals saved.

If a car were built now at £ £210 the theoretical calue is £120
showing an immediate loss of £90. It is probable that, to
meet the Public convenience and to prevent competition, it
would pay the Board to face this loss.