

SESSION



1911-1912

President: The Most Hon. The MARQUIS OF GRAHAM, C.B., C.V.O.

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## Minutes of Proceedings

AT THE

## Annual Meeting

*HELD IN THE ABERCORN ROOMS, LIVERPOOL ST.  
HOTEL, E.C., FRIDAY, MARCH 15, 1912.*

CHAIRMAN: THE MOST HON. THE MARQUIS OF GRAHAM, C.B., C.V.O.

THE HON. SECRETARY: It is proposed that Mr. A. Boyle, Vice-President, should occupy the Chair until our President arrives.

The CHAIRMAN: We had, and yet have, every reason to believe that the Marquis of Graham will be with us this evening. I am simply, as it were, a "stop-gap" Chairman, and do not intend to say anything beyond what is required in order to proceed with the business. There is a good deal to be done, the appointment of Scrutineers, the Report and Financial Statement to be read and considered, and various other items. I think I have made a special point at other Annual Meetings to remind the members present that this is the one evening of the year when they can bring forward any suggestion on any subject which may be of interest to the members or of value to the Institute, so that I will not trespass further upon your time. The first item of business is the appointment of Scrutineers of the Voting Papers.

Mr. WM. WALKER (Member) : I beg to propose Messrs. E. W. Ross and P. Smith be appointed Scrutineers.

Mr. R. H. PINN seconded the motion, which was carried unanimously.

The CHAIRMAN then called upon the Hon. Secretary to read the Annual Report, as follows :—

## Annual Report.

SESSION 1911-1912.

THE membership at the close of the financial year, January 31, 1912, after deducting losses due to retirement, to lapsing and to death was 1,284. The following list shows the strength of the various sections of the membership, with the additions and changes during the year.

GRADE.	1911. Roll Jan. 31.	Lapsed.	Transferred. from. to.		Died.	Re- signed.	Elected.	1912. Roll Jan. 31
Past Presidents (Non-Members) .. ..	8	—	—	—	—	—	1	9
Hon. Vice-Presidents	1	—	—	—	—	—	—	1
Hon. Members .. ..	1	—	—	—	—	—	—	1
Members .. .. .	955	43	—	30	10	10	89	1011
Companions .. ..	71	6	1	—	—	—	6	70
Associate Members ..	61	6	3	3	—	—	7	62
Associates .. .. .	46	5	5	3	—	—	5	44
Graduates .. .. .	52	—	6	2	—	—	8	56
Probationary .. ..	33	—	23	—	—	1	21	30
Totals .. .. .	1,228	60	38	38	10	11	137	1,284

### OBITUARY.

It is with regret we have to record the following names of those members who have died :—

Mr. Thos. Anderson (Member).

Mr. T. M. Aitken (Member).

Mr. D. J. Dunlop (Past President).

Mr. D. C. Edwards (Member).

Mr. Graydon Hume (Member).  
 Mr. A. D. MacNicoll (Member).  
 Mr. C. K. Maud (Member).  
 Mr. E. O. Murphy (Member).  
 Mr. John Preston (Member of Council).  
 Mr. W. I. Taylor (Member).

#### PAPERS AND DISCUSSIONS.

Ten papers have been read and discussed on Monday evenings during the winter session. In some cases the discussions were adjourned, the total number of meetings held being twenty-four as noted on pages xl and xli.

*The Denny Gold Medal* for session 1910-11 was awarded to Mr. W. R. Cummins for his paper on the Internal Combustion Engine. The medal was presented by the Most Hon. the Marquis of Graham at the Institute premises on the occasion of his visit to deliver the Presidential address for session 1911-12.

\* The appended table shows the meetings held throughout the year, with the exception of those in connection with the Tennis Club, which are referred to in another paragraph.

#### ISSUE OF TRANSACTIONS.

The monthly issue of transactions has been testified, by many members abroad, to be a source of close attachment to the Institute and of pleasure combined with profit to themselves. It is gratifying to receive this testimony in justification of the policy pursued. The advertisements received assist in the payment of the cost incurred by the frequent issue. The value of a paper is greatly enhanced by the liberality of the discussion, and members who cannot attend to hear a paper read are cordially invited to send contributions giving their views on the subject matter, that such may be incorporated in the Transactions to enhance their value. The cordial thanks of the Institute are due to those who have contributed to the Transactions, and have given their personal attendance at the meetings to show their appreciation of the labour of those who give papers in the spirit which was so well commended by speakers at the Annual Dinner.

\* See page xl.



## EXPERIMENTAL WORK.

Several fuel tests have been conducted during the session to meet the requisitions of members; and inquiries have been responded to in connexion with coal and its constituents.

## SUMMER VISITS.

Visits were arranged for on Saturday afternoons to works within easy access of London. These have been duly reported in the Transactions.

## LIBRARY.

Sixty-three books have been added since our last annual report; a list of the volumes with their donors is appended and thanks are accorded to members and friends who have kindly added to the Catalogue of the Institute. Books have been lent to members on application.

## READING ROOM.

The large number of magazines and papers supplied for the benefit of visitors may be seen by reference to the list herewith. Many members about to proceed on long voyages have been supplied with copies of magazines and papers after these have been a month on the table; exception is made of those papers and magazines which are to be bound at the end of the year. Thanks are given to the proprietors of the journals who have kindly sent these for the benefit of the readers.

## ADVISORY COMMITTEE, BOARD OF TRADE.

The following is a list of subjects considered by the Merchant Shipping Advisory Committee of Board of Trade, from January to August, 1911, when their term of appointment expired.

There is only one subject, i.e. (No. 3) Motor Lifeboats, included with Collapsible Decked Lifeboats, that will be interesting to engineers.

(1) *Engagement of Seamen at Antwerp*.—Circular letter issued to Shipowners' Associations by the Board of Trade.

(2) *Certification of Masters and Officers in Home Trade Cargo Vessels*.—Legislation is proposed to deal with this subject.

(3) *Decked Lifeboats*.—New rules and instructions issued.

(4) *Number of Lifeboats on vessels of 10,000 tons and upwards*.—Under the consideration of the Board of Trade for adjustment.

(5) *Depth of Lifeboats*.—Under the consideration of the Board of Trade.

Mr. George Shearer (Member) has been re-appointed Representative of the Institute on the new committee.

#### EXCHANGES.

The Transactions of the Institute are forwarded to thirty-three kindred societies, including educational institutions, with whom we exchange proceedings.

#### BOUND VOLUMES.

Fifty-three bound volumes have been disposed of in the past year, including twenty-six to libraries, colleges and institutions. Members have suggested that in addition to the monthly issue, it would be a great advantage to receive a bound volume each year. The practice hitherto has been and still is for members to return their monthly issues of papers and have them bound in uniform style at 3s. 6d. per volume. The annual subscription would not cover the additional outlay involved in printing a double set of papers and binding one set for each member. The suggestion made, however, is a good one and appreciative of the value of the Transactions for reference.

#### PROPERTY.

The contributions made by members and friends appear in the list of additions made to the property. It is pleasing to receive these gifts towards embellishing the walls of the premises and giving to visiting members opportunity of seeing materials changed from the normal under conditions which the experience of others may help them to avoid or profit by. The premises have been kept in good order and condition. The billiard table has not been much in use; the lantern and connexions have been in useful service from time to time. The museum would be of greater service and interest if the accommodation were increased to admit of re-arranging the exhibits and no doubt these could be added to materially by members.

More space is required for the purpose of extending the library and providing more book-cases to accommodate a large number of books at present stowed away in cupboards. During the previous session fairly extensive renovations were carried out, and little has been required to be done during the session just closed, as will be noted from the financial



statement. The side wall bordering the premises on the east has been repaired from time to time, but as the brickwork is somewhat wasted and perished, the most satisfactory way of dealing with it will be to build a new wall. Some extra cleaning and whitewashing will be required in the course of the coming session.

#### RECREATION AND SOCIAL.

The report of the Annual Dinner has previously been published and issued. It was held at the Hotel Cecil on Friday, November 19, 1911. The number of members and guests present was about 370. A very pleasant and interesting Reception and Concert, held on Friday evening, June 30, gave opportunity to members and friends to meet the President and Her Grace the Marchioness of Graham at the Royal Botanic Society Gardens. Sir Wm. Hall Jones, in the course of the evening presented to Mr. F. Reddaway the gold emblem of the Australasian Institute of Marine Engineers on behalf of the marine engineers of New Zealand as a token of their appreciation of his gift for the new premises at Wellington.

#### TENNIS CLUB.

The membership of the Tennis Club last session, including ladies, was 33. Invitation is extended to the junior section to join the Club in view of the coming season.

The attendance has been fairly regular and a great deal of use has been made of the court this season. An outing was arranged to Herongate, in which 17 members took part. Two matches were arranged with the Upton Lawn Tennis Club. Three socials have been held during the winter and have been well supported. Mr. Jones won the prize kindly given by Mr. John McLaren for the gentlemen's Singles Tournament.

INCOME.		EXPENDITURE.	
	£ s. d.		£ s. d.
Balance from 1910 . . . . .	4 0 8½	General expenses . . . . .	6 0 3
28 subscriptions at 7s. 6d. . . . .	10 10 0	New turf . . . . .	4 10 0
5 subscriptions at 10s. 6d. . . . .	2 12 6	Rolling and cutting . . . . .	2 10 0
7 entrance fees at 2s. 6d. . . . .	0 17 6	Postage and stationery . . . . .	0 12 6½
Socials . . . . .	20 17 0	Outing . . . . .	2 4 4
Sundries . . . . .	0 7 0	Socials . . . . .	21 19 0
Outing . . . . .	2 4 4	Gratuity to caretaker . . . . .	1 1 0
		Balance . . . . .	3 19 5
	<hr/>		<hr/>
	£42 16 6½		£42 16 6½

J. H. REDMAN, *Hon. Secretary.*

## JUNIOR SECTION.

Owing to the close attendance at classes, there are few opportunities of arranging special meetings for the junior section of the membership; except during the vacation, when visits may be paid to works and places of interest. A large gathering was held in the Institute premises on Friday, December 29, when the young folk were invited by Messrs. Hawthorn and Lang. The evening and early morning were pleasantly spent amid the music and the dance.

It is suggested that an exhibition of models and materials of special interest might be arranged in connexion with this section and carried into effect by the Associates and Graduates, who from amongst themselves could appoint a committee to organize and prepare with the counsel and assistance of the committee who may be appointed by the new Council of the Institute.

## AWARDS.

For the Lloyds' Scholarship only one candidate sat for the examination which was held at Glasgow; but unfortunately he did not come up to a sufficient standard to warrant the Committee to recommend him for the scholarship. For the coming year, special large posters have been issued to call attention to the scholarship and the awards offered by the Institute. Mr. J. D. Boyle, who gained the scholarship the previous year, is still attending Glasgow University and hopes to be able to maintain himself for a third session, the Lloyds' Scholarship being tenable for two years only.

The papers set for the awards resulted in these being gained by Messrs. J. D. Boyle (Graduate) and H. B. Locke (Graduate) for Essays on "The Steam Engine Indicator."

## PRESS CUTTINGS.

Members and friends are invited to send contributions in the form of cuttings from journals and papers, containing references or matters of interest to members. These books of cuttings well arranged and indexed may be made both interesting and valuable for study and reference.

## EXHIBITIONS.

Several interesting exhibitions have been held during the past year at Olympia and the Agricultural Hall, London, but



no official visit has been paid by the Institute; parties of members have visited these by friendly arrangement. It is proposed, however, to arrange a visit on Saturday, May 11th,\* to the Exhibition of Non-Ferrous Metals to be held in the Agricultural Hall, Islington, when we hope to have papers read. We are looking forward to a prosperous and well-sustained year under the new President, while at the same time we desire to convey to our retiring President our deep thanks and warmest appreciation of his kindness to the Institute during his year of office.

On behalf of the Council,

JAS. ADAMSON,  
*Hon. Secretary.*

**THE INSTITUTE OF MARINE ENGINEERS—CITY PREMISES FUND ACCOUNT.**

To 31st January, 1912.

Dr.	£	s.	d.	Cr.
To Bank Charges ..	0	3	9	
„ Balances at Bank—				£
On Deposit Account	2,100	0	0	s.
„ Current ..	54	0	7	d.
	<u>£2,154</u>	<u>4</u>	<u>4</u>	
				By Donations .. ..
				„ Interest on Deposits
				2,127 17 6
				26 6 10
				<u>£2,154 4 4</u>

N.B.—The costs of appeal, amounting to £45 16s. 5d., have been advanced by the Institute, and have not yet been refunded.

95, CANNON STREET, LONDON, E.C.

To the Members of the

INSTITUTE OF MARINE ENGINEERS,  
58, ROMFORD ROAD, STRATFORD, E.

February 28, 1912.

GENTLEMEN,—

*City Premises Fund.*—We have examined the account of this Fund and compared the entries for contributions with the counterfoils of receipts and certify them to be correct.

The balances at the bank have been verified.

Upon the balance of £2,154 0s. 7d. there is a charge of £45 16s. 5d., the costs of appeal, advanced by the Institute, leaving available for the purposes of the Fund the sum of £2,108 4s. 2d.

Yours faithfully,

WEST & DRAKE,  
*Chartered Accountants.*

In presenting the above Report, the City Premises Committee would like to point out that in addition to the sum

\* Altered to June 22 owing to the date of the Exhibition being changed to June 17-27 through the coal-miners' strike delaying the exhibits.—J. A.



above mentioned, they have received promises from various friends to the amount of £2,403, making a grand total of £4,557 0s. 7d., towards the Fund to the end of February. The Committee would also like to point out that the Members of this Institute could help very much towards the full realization of the purpose of the Fund by sending in at once their subscriptions or promises of same. By doing so, outside help would be stimulated by showing that the Members themselves were willing to help the Fund to the best of their power.

### OBITUARY.

Mr. THOMAS ANDERSON, who died in January, 1912, was one of the original Members of the Institute, having joined at its foundation in 1889. He was born at Langholm, Dumfriesshire, in 1848, and educated at Langholm Academy. After serving as a millwright for some time with his father, he became apprenticed to Messrs. Wm. Anderson & Co., engineers, of London. He commenced his sea-going experience with the Pacific Steam Navigation Co., and was afterwards for many years engaged in the service of the Orient Co. On leaving this Company, he started business as a consulting engineer and agent in Liverpool, and was well known in after years as head of the firm of Messrs. T. Anderson & Co., Ltd., of that port. He was the inventor of a boring bar and electric drill for shaft coupling, a patent thermometer for examining insulated chambers on board steamers, a patent spanner and other engineering devices. He was a Vice-President of the Institute during session 1907-1908.

Mr. THOMAS M. AITKEN (Member) died in Rangoon Hospital on April 12, 1911. He started his career in the drawing office of Messrs. A. Campbell & Son, Glasgow, for one year, and in 1883 commenced his apprenticeship as an engineer with Messrs. Barclay, Curle & Co., Ltd., of Whiteinch, where he remained till 1889. In that year he went to sea as 4th engineer on board the s.s. *Crown of Arragon*, and in 1891 joined the service of the British India Steam Navigation Co. After serving through the various grades, he was promoted to the position of chief engineer in 1903, acting in that capacity on various vessels of the Company, including the *Aska*, *Kasara*, *Nerbudda*, *Sealda* and *Umballa*. After returning to India in the beginning

of 1909, he was for a short time at the coaling station, Calcutta, and was then chief on the *Putiala* and *Chilka*. He was elected a Member of the Institute in June, 1904.

Mr. DAVID J. DUNLOP (Past President) died on June 3, 1911. He was born in Mexico City in 1838 and educated in the High School, Glasgow, and the Collegiate School, Liverpool, and after serving an engineering apprenticeship with Messrs. Walter Neilson & Co., of Glasgow, joined the firm of Randolph, Elder & Co., of Glasgow, eventually occupying the position of principal assistant to Mr. John Elder when the firm was changed to Messrs. John Elder & Co. Later he was identified with the firms of Messrs. Cunliffe and Dunlop and David J. Dunlop & Co. A full record of his career and achievements was given in the July issue of the Institute Transactions. Mr. Dunlop was President of the Institute in 1902, but was elected a Member about seven years previous to that date.

Mr. DAVID C. EDWARDS (Member) died in July, 1911. He served his apprenticeship with Messrs. Ross & Duncan, of Govan. His sea-going experience extended over a period of twenty years, and at the time of his death he was in the employ of the Shire Line as chief engineer of the s.s. *Perthshire*. He was associated with the Institute from May, 1909.

Mr. GRAYDON HUME (Member) died on October 22, 1911. He spent his early years in Edinburgh and was educated at George Watson's College in that city. He served his apprenticeship with Messrs. Umpherston & Co., Ltd., Leith, and after sixteen years' experience in the service of the Anchor Line, became superintendent engineer with the Anglo-American Oil Company in 1893, which position he held at the time of his death. In June, 1911, he was appointed a Nautical Engineer-Assessor to the Board of Trade, but owing to illness he was prevented from sitting. He was elected a Member in February, 1896. He contributed several engineering models to the Institute, and in 1907, gave a paper on "Oil Fuel on Shipboard," also a lecture on Canada.

Mr. A. D. MACNICOLL (Member) died extremely suddenly in August, 1911. After serving his apprenticeship with Messrs. T. & T. Vicars, of Liverpool, Mr. MacNicoll in 1889 joined the then Beaver Line as a junior engineer on the old



s.s. *Lake Huron*, and until the time of his death was connected with the "Lake" boats, being chief engineer of the *Lake Michigan*, under the C.P.R. Co. He was a senior engineer of the Royal Naval Reserve. His connection with the Institute was only of a few months' duration.

Mr. CHARLES K. MAUD (Member) was accidentally drowned in Ballycastle Bay on December 6, 1911. After serving with Messrs. G. & A. Fuller, of Millwall, followed by about five years' sea experience, his last appointment at sea being chief engineer of the s.s. *Gladestry*, Mr. Maud went to the Bristol Channel, where he was employed as outside manager for Messrs. Mordey & Carney's repairing department. He became chief assistant to Mr. James Maxton, consulting engineer of Belfast, in 1903, and in the course of business, on board the s.s. *Templemore*, was one of the two men drowned when the vessel sank in Ballycastle Bay. Mr. Maud was elected a Member in January, 1895.

Mr. E. O. MURPHY (Member) was elected in May, 1891. His engineering experience was commenced with Messrs. John Jones & Sons, of Liverpool, and during his after life he was associated principally with the Canadian Pacific Railway Co., as engineer on their Empress vessels trading to the Far East. He resided for a number of years in Hong Kong, where he was engaged in shipbuilding, and at the time of his death, on August 9, 1911, was in business as a consulting engineer in Vancouver, British Columbia.

Mr. JOHN PRESTON (Member of Council), who died on May 12, 1911, was born in Perthshire in 1857. After serving his apprenticeship with Messrs. Hall, Russell & Co., of Aberdeen, followed by a period of sea service, he obtained an appointment at Singapore as assistant manager. He was then employed at the Caledonian Railway Works, St. Rollox, and after a period as manager to Messrs. Scott & Co., Kirkcaldy, he was appointed superintendent engineer of the General Steam Navigation Co., Ltd., with which firm his name is most widely associated. He joined the Institute in 1897, and was elected a Member of Council in 1910.

Mr. WILLIAM ISAAC TAYLOR (Member of Council) joined the Institute as a Member soon after its inauguration in 1889, and

was for many years a Member of Council. He was born at Auckland, New Zealand, in 1849. In January, 1863, he entered the service of Messrs. Losh, Wilson & Bell, engineers, Walker-on-Tyne as an apprentice and remained with them for thirteen years, ultimately occupying the position of head draughtsman and assistant manager. After a partnership of about two years as consulting engineer with Mr. A. Goodman, in 1878 he accepted an appointment as engineer and manager of the Barmoor Colliery, Lowick, Northumberland. In 1882 he became London manager for Messrs. Clarke, Chapman & Co., Ltd., of Gateshead, of which firm he was a director. He held this position until within a few months of his death; and was also London representative of the Darlington Forge Co. He died at Enfield on March 10, 1911.

#### TRANSACTIONS EXCHANGED WITH.

American Society of Civil Engineers.  
 American Society of Mechanical Engineers.  
 Association of Engineers in Charge.  
 L'Association Technique Maritime.  
 Barrow and District Association of Engineers.  
 Incorporated Institution of Automobile Engineers.  
 Institute of Metals.  
 Institution of Electrical Engineers.  
 Institution of Engineers and Shipbuilders, Kong-Hong.  
 Institution of Engineers and Shipbuilders in Scotland.  
 Institution of Mechanical Engineers.  
 Institution of Naval Architects.  
 Liverpool Engineering Society.  
 North East Coast Institution of Engineers and Shipbuilders.  
 Société d'Ingenieurs Civils de France.  
 Western Australian Institution of Engineers.

#### COLLEGES AND UNIVERSITIES WHICH RECEIVE TRANSACTIONS.

Armstrong College, Newcastle-on-Tyne.  
 Cambridge University.  
 Cornell University (U.S.A.).  
 Dollar Academy.  
 Glasgow University.



Glasgow and West of Scotland Technical College.  
Liverpool University.  
Manchester Municipal School of Technology.  
Trinity College, Dublin.  
University College, London.  
University College of South Wales.  
University of Illinois (U.S.A.).

LIBRARIES WHICH RECEIVE TRANSACTIONS.

Bodleian Library, Oxford.  
Brisbane Public Library.  
Library of Congress, Washington, U.S.A.  
New Zealand Government Assembly.  
Patent Office Library.  
West Ham Library.







## ACCOUNT.

31st January, 1912.

Cr.

						£	s.	d.	£	s.	d.
<b>By Subscriptions :</b>											
Members..	..	..	..	..	..	990	18	6			
Associate Members	..	..	..	..	..	35	17	4			
Associates	..	..	..	..	..	15	3	6			
Graduates	..	..	..	..	..	9	16	3			
Companions	..	..	..	..	..	49	15	9			
						£1,101	11	4			
<b>„ Less Subscriptions in Advance—</b>											
Members ..	..	..	..	98	3	5					
Associate Members	..	..	..	3	19	4					
Associates	..	..	..	1	2	11					
Graduates	..	..	..	1	7	6					
Companions	..	..	..	0	19	3					
									105	12	5
											995 18 11
<b>„ Interest :</b>											
Consols..	..	..	..	..	..	22	16	4			
Transvaal Stock	..	..	..	..	..	5	13	0			
Local Loans	..	..	..	..	..	14	2	8			
Deposit..	..	..	..	..	..	9	15	5			
											52 7 5
<b>„ Reception and Concert</b>											45 5 0
<b>„ Transactions Section</b>											11 5 1
<b>„ Advertisements</b>											67 0 0
<b>„ General Revenue :</b>											
National Telephone	..	..	..	..	..	0	5	0			
Billiard Table Receipts	..	..	..	..	..	0	17	6			
											1 2 6

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**£1,172 18 11**

## ANNUAL DINNER (1911) ACCOUNT.

Dr.		£	s.	d.		Cr.
To Expenses .. .. .	177	19	6		By Balance from last Account .. .. .	6 10 11
					„ Sale of Tickets, 325 at 10/6 each .. .. .	170 12 6
					„ Balance, being Loss, carried to Revenue Account	0 16 1
	£177	19	6			£177 19 6
						£177 19 6

## LIBRARY ACCOUNT.

Dr.		£	s.	d.		Cr.
To Books purchased .. .. .	8	2	6		By Balance per last Account .. .. .	11 14 0
„ Balance, carried to Balance Sheet .. .. .	8	7	3		„ Donations .. .. .	4 15 9
	£16	9	9			£16 9 9
						£16 9 9



## THE INSTITUTE OF MARINE ENGINEERS.

### BALANCE SHEET, 31st JANUARY, 1912.

Dr.	BALANCE SHEET, 31st JANUARY, 1912.				Cr.		
LIABILITIES.				ASSETS.			
	£	s.	d.		£	s.	d.
To Sundry Creditors for Printing, etc.				By Cash—			
„ Mr. Robert Clarke, for Open Competition Award .. .. .				At Bank .. .. .	203	14	9
„ Subscriptions in Advance .. .. .		2	2	On Deposit .. .. .	600	0	0
„ Denny Gold Medal Fund .. .. .		105	12	In Hand .. .. .	7	17	8
„ Stephens' Legacy Fund—							
Balance, 1st February, 1911 ..	111	5	4	„ Sundry Debtors for Advertisements, Tickets, etc.			811 12 5
Add Interest .. .. .	2	10	0	„ Investments—			
	113	15	4	£968 13s. 6d. Consols 2½% ..	820	7	3
Less Awards .. .. .	5	10	0	£200 Transvaal 3% Stock ..	198	1	0
				£500 Local Loans .. .. .	494	2	3
„ Library Account .. .. .			108 5 4				1,512 10 6
„ Revenue Account—				„ City Premises Fund Expenses (recoverable) .. .. .			45 16 5
Balance, 1st February, 1911 ..	3,319	3	9	„ Freehold of Institute Buildings .. .. .			1,500 0 0
Add Balance of Revenue Account	159	0	4	„ Furniture at Institute—			
Add Entrance Fees for year ..	150	0	0	Balance, 1st February, 1911 ..	282	11	0
				Additions .. .. .		13	6
			3,628 4 1				
				Less Depreciation .. .. .		283	4
						14	3
				„ Rates in advance .. .. .			269 1 3
							5 19 0
			<u>£4,178 6 1</u>				<u>£4,178 6 1</u>

CHAIRMAN : Mr. Mather, the Hon. Treasurer, intended to be present to read the Financial Statement, but unfortunately he is unable to be with us, and Mr. J. Clark has kindly consented to perform this duty.

Mr. J. CLARK (Member) : Owing to the unavoidable absence of our Hon. Treasurer, Mr. Mather, on business, I have been asked on account of being one of the Hon. Auditors, and therefore somewhat familiar with the leading features, to put before you the Financial Statement for the past session. I am particularly glad that my duties are made easy by the prosperous nature of this report, and as an auditor would desire to associate myself with the congratulations due to our Council for the most satisfactory state of affairs. Such results give the members some indication of the attention that must have been devoted to all that concerns the well-being of the Institute. It is customary for the Hon. Treasurer to read Messrs. West and Drake's summary, as given in their letter, and with your permission I will now do so :

95, CANNON STREET, LONDON, E.C.

February 27, 1912.

To the Members,

THE INSTITUTE OF MARINE ENGINEERS,

58, ROMFORD ROAD, STRATFORD, E.

GENTLEMEN,—

We have to report that we have examined and checked the account, of your Institute for the year ended 31st January, 1912.

2. The Revenue Account shows a profit of £159 0s. 4d., as against one last year of £70 11s. 11d., an increase of £88 8s. 5d.

3. The gross revenue for the year (omitting £45 5s., received in connexion with reception and concert) is £1,127 13s. 11d., an increase of £33 6s. 7d. This increase is mainly attributable to an increase of £42 in the subscriptions. There is also an increase in the amount of interest. On the other hand, there are small decreases on several other accounts making up the difference.

4. The expenses charged to Revenue Account (after deducting £45 5s. received on account of the expenses of the reception and concert) amount to £968 13s. 7d., as compared with £1,023 15s. 5d., being a decrease of £55 1s. 10d. This is accounted for by a diminution of £95 6s. 9d. in the repairs account, and of £5 4s. 1d. in the rates and taxes account. On the other hand there are increases in several accounts, the principal of which being general expenses, £9 10s. 6d., papers and discussions, £19 5s. 6d., and there is a loss on reception and concert of £16 6s. 5d.

5. The City Premises Fund appears as a debtor to the institute for £45 16s. 5d., the amount spent for the purpose of procuring contributions to the Fund. The amount is recoverable from the Fund.

With the exception of this amount no entries relating to this Fund appear in the Institute's books. The accounts of the Fund have been submitted to us for audit, and form the subject of a separate report.



6. We have obtained all the information and explanations we have required. In our opinion the Balance Sheet of your Institute has, subject to the exclusion of this Fund, been properly drawn up so as to exhibit a true and correct view of the state of the Institute's affairs according to the best of our information and the explanations given us and as shown by the books of the Institute.

We have inspected the title deeds of the freehold property and have verified the investments and the balances at the bank. £618 13s. 6d. of Consols appear at the price of 85, to which they were written down in January, 1904. The remaining investments appear at cost price. There has been further depreciation, for which provision has not been made.

We are, gentlemen,  
Yours faithfully,

WEST & DRAKE,  
*Chartered Accountants.*

The leading details of our accounts are well brought out in this letter, but there are one or two items which deserve remark. The first of these is the Entrance Fees, which show a rise of £21 10s. over last year, the figures being £128 10s. and £150 respectively. The next item is the large amount of cash uninvested, or practically uninvested, amounting to about £800. Some of this has, of course, disappeared in current expenses which were not due when the accounts were made up. I may say, however, that the Auditors were informed that the Council have the investment of some of this money now under consideration, and the members can rest assured that the matter will be carefully dealt with in the near future. The next item is the value at which the investments stand in our books. It is agreed, and Messrs. West and Drake emphasize the point in the final paragraph of their letter, that suitable provision has not yet been made for market depreciation of some of the securities we hold. Altogether it is not a very serious matter, e.g. Consols, which stand at 85 in our books, and reduced in 1904 from 112½ are now quoted at about 78; at the market value to-day our loss is something like £60, but on principle it is good to make adjustments from balance sheet to balance sheet, and this matter, I understand, will also have the Council's consideration. The revenue derived from the advertisements in our Transactions, since 1907, when they were first started, has brought to our Funds no less a sum than £517 9s. 6d., or an average of £86 10s. per annum. The results this year are the lowest of any year, and are about £20 below [the whole] average. I frankly mention this as the most unsatisfactory detail of the whole balance sheet. Al-

though this matter is not directly under the control of the Council, it is not being allowed to look after itself, and no doubt steps will be taken to bring about an improvement. The advertisements deserve to be developed, as they are of value to our members, besides adding handsomely to our funds. The cost of Transactions is keeping pace with our membership and is the chief and only item of expenditure we are all pleased to see increasing. In connection with finances, the subject of arrears always crops up. The subject is a disheartening one at the best, but I am sure the members will be gratified to learn that since 1909 the percentage of those in arrear has gradually and systematically fallen from 22 per cent. to 15 per cent. for the current session. Needless to say, the result has not been accomplished without a great deal of hard and faithful work on the part of the staff, and I feel sure the members will endorse the remark that it ought to encourage them to go one better next year. I think the other items explain themselves. Before sitting down, I would just like to say, as an auditor, that these gentlemen it is our privilege to meet to go over the accounts, accord Mr. Robertson and myself the fullest information in the most obliging and courteous manner. Nothing seems to be a trouble to any of them in connection with anything which relates, however remotely, to the good and prosperity of our Institute.

Mr. BOYLE : We have all listened with interest to the statements by Mr. Adamson and Mr. Clark. They have been so full and clear that to make any extended remarks upon them would be merely taking up time, so with your permission I will formally move the adoption of these Reports. You have heard from Mr. Adamson about the various departments of the Institute's work, all more or less successful, also Mr. Clark's remarks on the financial side. The position of the Institute is very satisfactory, both numerically and financially. The total membership has increased, in spite of several being removed from the roll. The amount spent on Transactions is about £30 more than last year, which is as it should be. As far as it is in our power to do so, our aim should be to increase the value of the Institute to the members. For a great many of our members the Transactions form the principal item of value which they receive directly. Of course there are a great many indirect advantages, but to those of our members



abroad or at sea the chief advantage received is through the Transactions. These are very valuable in themselves, and a little extra cost in making them fuller or more attractive is, I am sure you will all agree, money well spent. For several years in succession we have been increasing our membership, and we are all very pleased to see that we are advancing in numbers, but at the same time I cannot help thinking we have not the membership we ought to have, considering the very large number of marine engineers there are. The total membership is 1,284, but I see no reason why the members of this Institute should not number from 3,000 to 5,000. If this were accomplished the eternal want of pence that vexes Members of Council as well as public men would disappear and many difficulties in regard to the work of the institute would be removed. I would ask you, gentlemen to bring what influence, you can to bear upon chief engineers to join the Institute, in the way of pointing out to them the advantages of doing so. The value of the papers alone is equivalent to the money the membership costs them. It gives marine engineers a rallying point. It is like the Club to the West End man, or that of the Army to the officer. Every one in this world owes some debt to the profession by which he lives, and I think the marine engineer could not pay that debt better than by joining this Institute. Even if they themselves derived no benefit they would be benefiting the profession as a whole. We have young men coming on, and it is very useful for them to gain, in a pleasant way, a great deal of information. Engineering is in a transition state at present ; one does not exactly know what is going to be the ultimate outcome, but it is very important that engineers should keep in touch with the new developments which are constantly being treated upon in the papers read before the Institute. I have pleasure in moving the adoption of these reports. We are really indebted very much to Mr. Adamson for the very careful and able report he has compiled. It is not a light thing to put this report together, and means the expenditure of some time for a busy man. We are indebted likewise to Mr. Clark for putting the financial statement before us so attractively and in such an interesting manner.

Mr. G. W. NEWALL : I rise with very great pleasure to second the adoption of the Report and Financial Statement, and I am very pleased the Chairman has brought up the



question—a very vital one, I think, to this Institute—of its numbers. Without numbers our Institute is of little use. As regards the numbers for this year, we are certainly mounting up, and, with the numbers, the funds are mounting also. As Members we are to-day worth nearly £3 per head; last year, about £2 12s. 6*d.* I am also pleased to note that the deaths are of a low percentage. When you consider the nature of our profession, you will agree that ten deaths in, roughly, 1,200 members is much below the average. With regard to this all-important question of membership, on the twenty-first birthday of the Institute, two years ago, some of you may remember the large sheet I made out showing the position of the Institute both in regard to numbers and financially. If you look at that sheet, and take the average for the last ten years, you will find it works out at 1,028 members. For the first five of the last ten years the membership did not come up to 1,000, which, I think, is a very low number, considering the fact that this Institute is 23 years old. In this country there are some 30,000 to 40,000 engineers eligible for membership of this Institute, and as the value depends on its numbers, it is far better to get 1,000 members at one guinea per member than for one gentleman to give a thousand guineas. Therefore we should do our utmost to get engineers to join us. I have much pleasure in seconding the adoption of the Report and Financial Statement.

The motion was carried unanimously.

CHAIRMAN: The next item on the programme is a Vote of Thanks to the Retiring President; but as his Lordship has not yet arrived, I think it would be wiser and more courteous to postpone that item until his arrival. We will therefore take now the Recommendations and Suggestions from members.

Mr. DURTNALL: May I make a suggestion with regard to the interesting papers that are read before our Institute. I courteously suggest that a little more publicity be given to them. Of recent years we have been entering into a new phase of engineering. In many papers the interesting science of electrical engineering has been embodied therein, and many electrical engineers are interested in our Proceedings, especially bearing in mind that we are the first institution in the world even to suggest the idea of main marine propulsion by electrical means, and to-day the American Government are building a

10,000 horse-power ship to be so propelled. If the electrical journals were to have a short report of our meetings sent to them, such as is sent to the mechanical and marine engineering trades journals, it would add to the interest of many who might be induced to become members of our Institute. I have met many mechanical and electrical engineers who have had great experience with marine engines (I mean internal combustion engines and electrical engineering at sea), and I think reports in the electrical journals would be more likely to come under their notice. If we can increase the publicity of our meetings it will be all for good.

Mr. G. W. NEWALL: One of the methods of increasing the membership which occurred to me was that we might have a brief history of the Institute prepared, embodying, of course, its aims, objects, the useful work it has done and what it professes to do, also giving a list of the papers read from the beginning and, if possible, one or two lines against each stating briefly what the aim of the paper was. This history of the Institute could be put into pamphlet form and some thousands printed at a cost of about 2*d.* each, and every month, say on the first of the month, copies of this pamphlet could be sent from the Institute to 100 ships in the British Isles. The 100 pamphlets and 100  $\frac{1}{2}$ *d.* stamps would cost about £1, and I think this small amount would be well repaid. Of course that is a matter for the Council, but it seems to me this would bring us into more prominence, and it would be of additional value if an Application Form was inserted at the back. It could be sent to the Chief Engineer and probably he would hand it to his juniors. I suggest we spend this pound per month and give the scheme a year's trial. The second point I have already mentioned to Mr. Adamson—that we should have agents in some of the principal ports of this country. I know that is a difficult point, but it is one that may be considered as to how to deal with them, their powers and pay, or the equivalent. I think it only requires to be known what has really been done by the Institute for a great number of engineers to join us.

Mr. GEORGE ADAMS (Member of Council) also referred to the suggestions put forward by Messrs. Newall and Durtnall.

Mr. F. M. TIMPSON (Member of Council): I would like to confirm Mr. Adams' opinion about the Transactions getting



to many probable members, and I prefer that method to the one Mr. Newall has put forward. I do not think we ought to put ourselves in the position of begging for members. I come across many engineers and the tendency among them is to appreciate that our Transactions are of the utmost value to them. In fact, I know of several who have become members to get papers on up-to-date subjects, and I think if we can distribute papers as read among engineers who may come into this and other ports it will go to increase our membership among the class for whom the society was created, with the object of spreading useful information as may be given in our papers and discussions.

CHAIRMAN : We do not for a moment wish any one to act as if they were soliciting or begging any one to join ; it is simply a question of placing the advantages before thinking men. I think a good deal could be said in that particular direction, and considering the value of the papers, there is no doubt they will have an effect.

Mr. NEWALL : I think Mr. Timpson ties the matter up within a very small compass. The Institute will have to push itself before people, call it by whatever name you like. If he gets a few friends to join, well and good : let the distribution go on just the same ; some of it will find good ground. It is not expected that every pamphlet will bring grist to the mill, but some of them are bound to have effect.

On the Marquis of GRAHAM entering, Mr. Boyle vacated the Chair in the President's favour.

Mr. W. T. SEATON (Member) : The duty has been laid upon me to propose a vote of thanks to the retiring President, the Marquis of Graham, for his services to the Institute during the past year. This is to me a very pleasant duty, because I feel that you all agree with me that on this occasion we are not going to propose a merely formal or perfunctory vote ; but each and every one of us would desire to tender our personal appreciation to the Marquis for the able and genial way in which he has performed the duties of his office this year. He has come among us in the most genial and kindly way, just like " one of our own cloth," as we may say. He has given us the support of his name and position, and the fact that we have

not seen more of him in the year is undoubtedly our own fault, and not his. I think you will agree with me that what has interested us most is the account he gave us of the pioneer work in which he is engaged in the development of the internal combustion engine. It is not given to many of us to be in at the commencement of great and revolutionary changes in the engineering world. To most of us these things come as accomplished facts and we do not see the early beginnings of them ; but in his most interesting Presidential Address the Marquis told us something of his personal work in this direction and, not only so, but he most kindly and thoughtfully afforded us an opportunity of seeing some of the results of it by giving us the privilege of going down to his yacht, which, as you know, is fitted with internal combustion engines, and making an inspection and trial. This was a privilege which we all highly appreciated.

But it seems to me that in another direction the Marquis has given us, individually, great assistance during the year ; I mean by his example and the keen interest he has shown in this engineering development. I suppose to most of us, engineering is, to some extent, a matter of necessity—I mean that our bread and butter more or less depends upon it, and I am afraid it is a fact with some of us that we rather neglect the scientific aspect of our profession when looking strictly to the bread and butter side of it ; but when we see a gentleman on whom no necessity of this kind is laid, and who has many objects which claim his attention in other directions, devoting himself to the practical study of scientific engineering, I think we ought to feel encouraged to try and do likewise, and in that way endeavour to carry out one of the main objects of this Institute. I would ask you all, therefore, to join in passing with acclamation, a most hearty vote of thanks to the Marquis of Graham for his services to the Institute during the past year.

Mr. A. E. BATTLE : I have very much pleasure in rising to second the vote of thanks to our retiring President, and I think you will all agree that we can say we can give him the title of a " practical " President. He has been one of those instrumental in introducing the internal combustion engine to marine work, and he has also been instrumental in introducing another social function to this Institute, one which I hope, and which a good many more hope, will be continued—I mean the Summer



social gathering of our Institute. It is a pleasure to look down the list of Past Presidents of the Institute and to think we are going to add an illustrious name to that already well-filled list; and when you think of the position which this Institute must take in the world of engineering, you will see that the efforts of the founders have not been in vain. We did not start early enough to have the name of James Watt on the list; but we have made an effort to have the names of other pioneers associated with us, the pioneer of the rotary engine for marine propulsion, and also our retiring President. I think the Institute is to be congratulated on the very valuable addition to its Past Presidents.

The Most Hon. The MARQUIS OF GRAHAM: I regret I was unable to be here at the beginning of the meeting, especially as this is the last occasion on which I, as an Office-bearer, shall see you. I am very glad to note that, during the year in which I have had the honour of holding office, the interest in the Institute has been maintained. I am glad there was an increase in the membership of fifty-six during the year and that our numbers are now about 1,284. I should like to see another 1,284 added. I also feel it a great pleasure to take part in your efforts to raise funds for your new premises, and I am very gratified to know that Lloyd's Register have responded so generously as to give us a donation of 500 guineas. As you are aware, we have now sent out a letter to a large number—I am afraid to give the number—of shipowners, shipbuilders, shipbrokers, marine engineers and every conceivable person I know, or imagine I know. Probably they don't know me, but it is very likely they will before long. We have sent out the circular and I shall await with interest to hear what the response will be. I do not suppose it will be as good as that received from Lloyd's Register, but I hope it will be sufficiently generous. I have read with interest the account of the Transactions issued and the lecture and papers given and discussed at the Institute. I wonder if all the members realize the influence these have on the profession as a whole. You send them out to learned societies and similar Institutions and to members all over the world who have not the privilege of entering into the discussions. Certainly many people receive great value from these discussions and most interesting papers, and every one who takes part should realize the large audience he is

speaking to. I think the work done by the Advisory Committee to the Board of Trade during the past year has been very useful. They have dealt with a number of subjects, and I think that is a very useful work for the Institute to perform, namely, to assist those who have governing powers. People complain of bad laws, but when those who know the facts do not disturb themselves to inform those who make the laws, what else can one expect but bad laws? And it is very beneficial that people who understand their profession thoroughly, and who have had experience at sea, should be able to exercise their influence. Coming to the lighter side of the Institute's work, Lady Graham and I were very glad to have the opportunity of receiving the members at the Botanical Gardens. Although we in the Institute take our work very seriously, and our meetings are of great importance, we must not lose sight altogether of the social side. The social meetings, tennis club and such-like gatherings, help to keep our members together. Then I think the work done by the Institute at Exhibitions in the past has been extremely useful. A good Exhibition does a great deal in the way of public education in the development of engineering, and it is very useful in extending the influence of the Institute. I will just say again how much I appreciated the honour during the past year of being your President. I must thank you very much indeed for the kindness you have shown me and an honour which I shall always appreciate.

Mr. G. P. LEE (Member) : I have much pleasure in proposing a very hearty vote of thanks to the Office-bearers and Members of Council. From my own personal knowledge I know some of these gentlemen have given much of their time to the work of the Institute. The ordinary members can please themselves whether they come to the weekly meetings of the Institute or not. Unfortunately I am not a member who has been in the habit of attending the meetings, as my business has taken me away a good deal, but I hope in the future to be able to attend more regularly. But a Member of Council feels he must attend the weekly meetings. Although a private member may feel that the subject to be discussed is not of sufficient interest to him, or that in any case he will be able to read it when later it is published in the Proceedings, a Member of Council cannot excuse himself on those grounds. He must feel that the honour of being a Member of the Council also carries with it the duty of attending the meetings. The



Members of Council are doing their work well. The recommendations we have heard to-night with regard to the increase of membership does not so much concern the Council as the members themselves. The Members of Council, as Mr. Adams has told you, are gentlemen holding high positions, some of them as superintendent engineers, and it is rather a delicate matter for them to approach the engineers serving under them with a view to inducing them to become members of the Institute. But to most of the members that does not apply, and it is for those members to bring in others. I make a suggestion now, and promise to do something myself. I will undertake to bring in at least another six new Members of the Institute this year, and if other members will do that we will soon get the number required. The membership should be nearer 12,000 than 1,200. No branch of engineering requires an Institute more than the Marine branch, and there is no class more in a position to support it, as they are, on the average, better paid than in many other branches of the profession. They are in need of an Institute, from the nature of their profession taking them away from home as it does for a large percentage of their time. They are, therefore, not so well able to keep themselves up-to-date as engineers in other branches, who are always in a position to see the latest developments. The Marine engineering profession is one which is probably going to develop more rapidly than any other, and the Marine engineer must be in a position to keep pace with that development, and so be up-to-date. Of his own personal experience he cannot obtain the knowledge he requires. He must be able to draw on the experience of other people, and the Institute helps to place that experience at his disposal. Already the Institute has done a great amount of good by issuing the Transactions: but it can do much more if funds are forthcoming, and those funds must come from an increased membership. If the members would undertake to bring in more members the Council would soon have funds to do the work that is waiting to be done for the great improvement of the Marine engineering profession. I have much pleasure in moving this vote of thanks.

Mr. W. P. DURTNALL (Member): It gives me great pleasure to second the vote of thanks to the Office-bearers and Members of Council, so ably put by Mr. Lee. The Council forms the

basis of this Institute. On them rests the guidance of the affairs, the judicious selection of the papers to be read, and the successful results of the whole proceedings. On the Council we have pleasure in noting gentlemen of high position and of great experience, and when a paper is approved by them it is a high honour to the author. In the further developments of engineering which have been referred to to-night, the development of the internal combustion engine, it will be an advantage to have the Council to advise us as to the methods of dealing with this improvement in the future by careful selection of papers on the subject. Many engineers I have met, chief engineers who have come across our members in foreign ports, have mentioned these papers, and wished to have copies sent to them, although they were not members. They appear not to know how to become members, and I think the Council should give the methods of publicity suggested their consideration. On the whole we are all glad to see the splendid management the Council has given to the Institute's affairs.

The HON. SECRETARY : I have very much pleasure, on behalf of the Council, in thanking you for the vote of thanks which has been proposed by Mr. Lee and seconded by Mr. Durtnall. I hardly expected to take this duty to-night, but in the absence of others it has fallen to my lot and, being an enthusiast, I am always ready to step into any gap so far as the Institute is concerned. Mr. Lee stated that those who were elected by the Members of the Institute to become Members of Council had conferred upon them, not only a great honour, but a great responsibility. Every Member of Council ought to be an enthusiast ; he ought to take the text from the words Mr. Boyle let fall, and not only feel a pride in his profession, but consider himself a debtor to it, and how best can he show it than by joining the Institute of Marine Engineers and by doing his best for it and all the different ways in which it works towards the betterment of the marine engineer. We have had several suggestions made to us to-night, and I will take this opportunity of referring to a few of them. We send to about twenty to thirty of the technical papers a report of our meetings and occasionally our Transactions find entrance to other papers to which we do not send reports directly. But if Mr. Durtnall can suggest any other papers to send to that are not already on our list we shall be pleased to increase the number. One of our



members situated in Hong-Kong has been most energetic in increasing the membership. With regard to the club element referred to to-night and on several occasions in the past, there is a provision in the By-laws to introduce this club element, and it has been the dream of my life since we started the Institute that we should have a club for marine engineers. Alas ! that dream has not been realized—I hope it will be some day and I think, in connexion with the City Premises Fund, that such a scheme is worthy of consideration. Engineers are members of clubs in different parts of London, some political, some social, and I believe many of them would transfer their allegiance to one we might form. With regard to the duty of each member, it rests with every individual member to try and do something for the Institute, and I think it ought to be for every member, at the end of the year and especially when we are drawing near to the Annual Meeting, to say to himself : “ What have I done for the Institute of Marine Engineers during the past year ? Have I done my duty ? ” If not, let that question remain in the coming year until the duty is performed and the conscience satisfied. We in the early days advertised the Institute in several of the technical papers, and no doubt that was a means of drawing attention to the Institute and bringing in an increase of membership. We had proof of that ; however, it was considered that we had advertised enough, and it was stopped ; but in view of what has been said to-night it might be feasible to re-consider the question and put advertisements in the technical papers in a tactful way. We do not wish to “ tout ” for members, but to show to marine engineers of the country and the world that we are doing something for them and the profession. It is astonishing the amount of ignorance that exists regarding the Institute, even amongst marine engineers sailing out of the Port of London. Yet our Transactions are reported in most of the technical papers and referred to by many outside the technical papers. Mr. Newall made a suggestion with regard to the history of the Institute and the list of papers read from the start. We have a complete list of the papers read at the Institute from the day it started. We got about 2,000 copies printed and have distributed them from time to time and have also sent out a circular and invitation card to steamers in the Port of London periodically. Mr. Newall’s proposal regarding the history of the Institute might be a means of doing good and calling more attention to the Institute than

the circular to which I have referred. There is a suggestion in connexion with the juniors which I would commend to the consideration of the members : that we should try to interest young men in the Institute by means of an Exhibition. I think that is a capital suggestion. It was made by Mr. John Lang and embodied in the Annual Report. That, of course, is for the new Council to consider and try to bring to fruition. It is very good to have the testimony of members from abroad, and also from others who are not connected with the Institute, of the value of our Transactions. We know our Transactions are appreciated in many quarters outside our membership, and that ought to be a spur and incentive for us to go forward and not only have more papers and meetings, but improve on the past and always keep advancing. As Mr. Durtnall said, we have had the honour of considering at our Institute many aspects of engineering in a way which has not been taken up by any similar association prior to ourselves. That itself is an honour to the Institute, and I am quite certain that if members will only look upon the Institute in the spirit in which it was intended when it was started, it will take a higher place in the days to come than it has in the past or holds at present.

Mr. J. H. REDMAN (Member) : I have much pleasure in proposing a vote of thanks to Mr. J. Clark and Mr. A. Robertson for the work they have done in connexion with the auditing of the Institute accounts ; and also in proposing that they be elected as Honorary Auditors for the coming session.

Mr. R. H. PINN (Member) : I have pleasure in seconding this vote of thanks to the Hon. Auditors and also the proposal that they be re-appointed.

The motion was carried unanimously.

Mr. J. E. ELMSLIE (Member) : I beg to propose a hearty vote of thanks to Mr. W. Archer, the Hon. Solicitor, for his services during the past session, and also that he be re-appointed.

The motion was seconded by Mr. John Lang, and carried unanimously.

The consideration of Recommendations and Suggestions from Members was then resumed.

Mr. J. CLARK (Member) : I have not very much to say in the way of recommendations because some of the recommendations we have already put before the Council as Auditors, and they



will doubtless receive attention. One referred to Life Membership. In most Societies, after twenty years' membership, members have the privilege of becoming Life Members. No doubt not many are affected, as twenty years is a long span. I would like to suggest, also, that a Proposal Form be attached to the Transactions in the form of a fly-leaf. At the present time I presume it is necessary to make application to the Institute for Proposal Forms. I daresay in many cases with members abroad, and even at home, this would not be very convenient, and convenience is a great thing in getting members, and I think it would be an improvement if an ordinary Proposal Form, perforated to tear off, were bound with each copy of the Transactions. Another matter is in connexion with the extension of the remarks of members. I do not know, but I rather think that might be summarized; it is hardly necessary for members' remarks to be printed *in extenso*. I think, perhaps, if a summary of the meeting were given it would, perhaps, meet the case. It would leave more room, and I think that the members, particularly junior members, might be encouraged to send small contributions to the Transactions, perhaps in the form of formulae. Every engineer has a note-book, in some cases packed full with formulae which in many cases might be of value to members. Of course we are all looking for more members; but it seems to me to be something like trade: if the produce is cheap enough and good enough, the membership will look after itself. I do not wish to draw the inference that the Transactions are not good enough, but they might be made even better.

Mr. JOHN THOM (Member): On one or two occasions last year our meetings have clashed with those of other Institutions, and that may be a reason for some of them not being so well attended as they might have been. There are only a few meetings of the Institution of Mechanical Engineers during the winter and on one of those evenings we had our Annual Dinner. I have no doubt the President of that Institution received an invitation to our Dinner, but he could not come, simply because he had a meeting to preside at that evening; and I think it might be possible, in arranging the meetings, to keep clear of the meeting nights of other Institutions. To-night there is a meeting of the Institution of Mechanical Engineers to hear an important paper and, as a result, we have

a smaller attendance here. I think the Council should have no difficulty in finding out the dates of these meetings and arranging their own accordingly. A good many points have been brought up to-night to try to increase the membership, but there are many more that might be mentioned. There are thousands of engineers at sea who would be members if only some one would tell them that by paying a small sum per year they could have sent to them each month copies of the Transactions of the Institute. Members and Superintending Engineers could take the opportunity of introducing the Transactions on many occasions, or could pass on to them a paper on a subject in which they are interested, especially if they are in difficulties with some class of machinery, you could tell them that a paper on that subject was read on such and such a date at the Institute which would tell them all about the matter, and they would become interested. I do not see why there should not be a club in connexion with the Institute, and I am sure if such a proposal were put forward there would be a large number of members to back it up.

Mr. P. SMITH (Member): on behalf of Mr. E. W. Ross and himself, then presented the Report of Scrutineers, as follows: As Scrutineers we have carefully examined all the voting papers sent in, the total number of which is 215. There were fourteen papers spoilt by being signed by the members or having other marks of identification. It is very gratifying to note by the post-marks on the envelopes that a large number of the voting papers came from abroad—India, China, Japan and almost all the Continental ports. I think it shows that members abroad take as much interest in the matter as members at home. The result is that the following Office-bearers have been unanimously elected:—

As President: Mr. Summers Hunter.

As Hon. Secretary: Mr. Jas. Adamson.

As Hon. Treasurer: Mr. Alex. H. Mather.

The Members of Council elected are as follows, in alphabetical order:—

Messrs. John Clark, John Falcon, John Gravell, John McLaren and James Peacock.

The meeting closed with a vote of thanks to the Most Hon. the Marquis of Graham and to Mr. A. BOYLE for presiding, the motion being proposed by Mr. George ADAMS, seconded by Mr. E. W. ROSS, and carried with acclamation.