

INSTITUTE OF MARINE ENGINEERS  
INCORPORATED.

SESSION



1897-8.

*President*—J. FORTESCUE FLANNERY, ESQ., M.P.

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OPENING MEETING

OF THE

EDUCATIONAL CLASSES

AT

58, ROMFORD ROAD, STRATFORD,

*On THURSDAY, OCTOBER 9th, 1897*

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CHAIRMAN:

THE PRESIDENT.

## P R E F A C E .

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58, ROMFORD ROAD,

STRATFORD,

*October 7th, 1897.*

The Opening Meeting of the Educational Classes, in connection with the Institute, was held here this evening, when the occasion was celebrated by a Reception and Social Meeting, for which arrangements were made by the Education Committee (Mr. JOHN ADAMSON, Convener), in conjunction with the Recreation Committee. The PRESIDENT occupied the chair, and was accompanied by Mrs. FLANNERY.

There was a large attendance of members (including Graduates and Associates) and lady friends. The proceedings (report of which follows), were happily combined to suit such an event as the opening of the Classes.

JAS. ADAMSON,

*Hon. Secretary.*

# INSTITUTE OF MARINE ENGINEERS INCORPORATED.

SESSION



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## OPENING MEETING

HELD IN CONNECTION WITH THE

EDUCATIONAL CLASSES.

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CHAIRMAN:  
THE PRESIDENT.

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LADIES and GENTLEMEN,—The summer, with its pleasures and outdoor sports, has now practically departed from us, and we find ourselves congratulating each other upon the return of the fireside season and the commencement of the annual session of this advancing and progressive Institution. We do not re-assemble without some regret and some element of sadness, because we have to mourn the loss of at least one prominent member of this Institution. I refer to our late lamented Vice-president Mr. Archibald Thomson. He was one of the earliest members of the Institution, and, if not one of those who founded it, he was one of the most enthusiastic and valuable supporters of all the functions and useful work of the Institute. He was a sound practical engineer and an upright gentleman, and the Institute is the poorer for his loss. But we have



now before us in this session that is coming the duty which this Institute has never been slow to perform—the duty of pressing forward to increase and mature, by papers and discussions, the knowledge of its adult members, and also to push forward in that great mission, than which no part of its work is more important, the instruction of the students and their preparation for taking their part in the coming generation of engineers. The measures that have been taken by the Education Committee of the Council are such as will bear comparison with any previous circumstance of the kind in the history of the Institution, and with that done by any other Institute of similar age. We hear a great deal about the need of technical education, and nowhere is that need more emphatic or more pronounced than in the case of marine engineering. Formerly a main boiler and an engine of two cylinders was the total sea-going responsibility of the marine engineer. To-day he must be an electrician, a mathematician, a chemist, a scientist, and always a practical man. There are few ships, even cargo boats, which are not now lighted by electricity. All passenger boats are fitted with freezing apparatus, and many of them have also mechanical ventilation. Freezing is not now, as it was a few years ago, merely a matter of compressing and expanding air, but is a much more serious question as regards the anxiety to engineers, for the process is frequently one which involves chemical, as well as practical, knowledge. We stand, I believe, as engineers upon the threshold of greater improvement in the future than in the past. We are on the threshold of greater refinement in mechanism, of greater complications, and the engineering sons of this Institution, the students, will advance further in their generation, I believe, than have the engineers who have been their immediate predecessors. The education committee of this Institute is thoroughly alive to the future, and thoroughly determined to prepare for it as far as they may be able, and not only have we for the next session classes on drawing and so forth, but classes for mathematics and electricity. The basement of this building has been cleared for the pur-

poses of a workshop, to enable our students to combine that special knowledge which is only to be obtained by practice and experiment in conjunction with the theoretical teaching of the class-room. I sincerely hope that the experiment which the educational committee have initiated, although it is not yet ripe for full accomplishment, will afford so much encouragement during the coming session that those who take an interest in technical education, both inside and outside this Institution, may be encouraged to give help and support, so that the technical classes and the other means of instruction may advance still further in the session to come. According to the programme, I find that there are a considerable number of speeches yet to follow, and we also have, what was so pleasing a function a year ago, a musical evening afterwards. This is not the time for long speeches, but I have felt that a few words from myself, in the position in which the Institution has been good enough to place me for the coming year, would not be out of place. Therefore I ask those of you who are students to help and encourage the work of the Institution by the regularity of your attendance during the coming session, and by the industry with which you study at home in the intervals of the lectures. And I ask those of you who are adults and accomplished members of your profession to give such help as you may be able to this most important educational work of the Institute of Marine Engineers.

Mr. JAMES ADAMSON (Hon. Secretary) then read a letter from the Mayor of West Ham (Alderman Govier), expressing his extreme regret that a public engagement prevented his attendance, declaring his cordial sympathy with the work done by the Institution, and wishing it continued success.

Mr. G. W. MANUEL, R.N.R. (Past President):—Ladies and Gentlemen,—I do not think that I can add much to the valuable address of our President. I am very pleased indeed to hear of the continued progress and success of the Institute, and of the introduction of



new classes, giving you opportunities in connection with your technical training, of acquiring knowledge in other branches of study, namely, mathematics and electricity; but after the able advice you have heard from the President, and seeing that owing to the length of the programme, time is limited, I need not trouble you with a long address. I was very much pleased last year to see at the conversazione the drawings of the pupils who had attended the Institute Classes. I hope to see them again this year, and to note the progress that you have made. I was, of course, a student myself in early days, although I had not the advantage of such assistance as you have in connection with this Institute, but last year at the conversazione I put my drawings alongside yours, so as to compare your work at your age with my work at my age. I think it was very interesting and satisfactory, but this year I hope to see something even better. The President having referred to one of the early enrolled members of the Institute who has recently passed from among us, I should like to tell you a little modern story, and my reason for doing so is that you should impress your minds with a fixed object to aim at—a something that will cause you to remember that you have a name to maintain, and a high standard to follow. If my words serve to impress that upon you, half the battle is accomplished, whatever else may follow, and if you keep it fresh in your memories it will make you good students, and help you to become good engineers and useful citizens. In November, 1888, some twenty-four good men and true, having the interests of marine engineers, and especially of future marine engineers in their hearts, resolved to give their support towards founding this Institute. These twenty-four men, out of no desire for personal gain or honour, but in order to enable you to progress in the knowledge of marine engineering to enable you to progress with the advanced requirements of the present and future times, and to benefit you socially and morally—with these objects these men founded this Institute to which, in your classes, you have the privilege of being attached. I regret to state that six out of the twenty-

four founders have passed away, but their memory will be cherished amongst us who remain, and I think it is a great gratification to feel that while they were here they did valuable and useful work, so that we have a most pleasant remembrance of them now that they are gone. Amongst the many good acts of their lives, they discharged what they regarded as a great duty to all members of this Institute, and they so far lived to see the remarkable progress which the Institute has made. Other men of the same stamp, and with the same feelings, became attached to the Institute, and have nobly supported the founders, while the work of the Institute has not only been appreciated and supported by men like ourselves, but has been encouraged and honoured by the best talent, and by the best merchants that this country can produce, Now the question which I want you and all young marine engineers to ask yourselves is; "What can I do in return for all these advantages which the Institute gives me?" Will you follow in the footsteps of those who have gone before, and leave similar marks in the sands of time? so that when you are called from time to eternity you will have the satisfaction of feeling that you also have done your best, in a like manner, to advance the interests and usefulness of this Institute.

Mr. MACFARLANE GRAY, who was introduced by the President as one who had done much for the higher education of marine engineers, then briefly addressed the company, and, after referring to the great scope of an engineer's duties, said there was no sign that that scope would cease extending, for all the physical sciences were incorporated in marine engineering, and every extension of human knowledge sooner or later contributed something to it. One instance of the discoveries and revelations continually going on might be quoted. On the same day that the papers published the news of the Jameson Raid, we received the intelligence of the discovery of the Röntgen rays. Since that time—since January last year—a library of books had been written on this one subject, the Röntgen rays. Having regard



to what scientists had already unveiled, who could say what would be the next thing discovered? Who could say that before long it might not be possible to look at a steel shaft two feet in diameter and see all the cavities in it? At present all we knew discouraged such an expectation, but recent surprises convinced us of the inexhaustibility of the things which eye hath not seen nor ear heard. Great attention was being devoted at the present day to the subject of technical education, but he warned the students not to regard education and knowledge solely as a means of making money. A man who devoted his attention only to that which would increase his wages had a very low aim in life. Their aim should be to learn and acquire knowledge so as to be able to understand and appreciate everything—every word of God. With regard to the use of books as a means of study, he recommended them to read understandingly and make no attempt to remember everything. His advice to the student was: "Acquire the habit of reading understandingly; what sticks to you, let it stick to you. If you understand that which you read you will enjoy it, and if you feel that you are enjoying that which you read, rest assured there is something that will stick to you."

Mr. JAMES ADAMSON (Honorary Secretary), at the request of the President, also addressed a few words of practical advice and counsel to the students, and after a humorous reference to the possibilities of the Röntgen rays, especially in relation to tunnel shafts, said he entirely agreed with what had fallen from Mr. Gray about technical education. On several previous occasions he (Mr. Adamson) had urged in that room, that they should not study for the mere sake of making money out of their studies. Let them keep to a higher platform. Let the material profit come if it would, but let them remember that their studies were not only a means to the end of making money or amassing a fortune. The fortune which they ought to aim at was their mental and moral good. He heartily endorsed the hope which the President had expressed that the



students would make the best possible use of their opportunities, and that they would all strive to outstrip in the race the best of those who had gone before them, and also keep in view what had been expressed by Mr. Manuel, to support the highest aims of the Institute, and look forward—with preparation, to take their places in carrying on the work which had been begun by the founders, and brought to its present stage.

The prizes awarded in the previous session were then presented by Mrs. Fortescue Flannery, the first prize being taken by E. J. Adamson, the second by J. E. Sellex, and the third by B. B. Robertson.

Mr. JOHN ADAMSON (Convener, Education Committee) proposed a hearty vote of thanks to Mrs. Flannery for her attendance on the occasion, and for also so kindly presenting the prizes.

Mr. W. J. NOWERS BRETT seconded the proposition, which was carried by acclamation.

The PRESIDENT replied on behalf of Mrs. Flannery, and said the vote had been rendered much more valuable than it would otherwise have been, from the fact that it had been proposed by the Convener of the Education Committee, and seconded by the Master of the Engineering and Drawing Classes. He would, however, take this opportunity of saying that whatever little help he or his wife might be able to give during his connection with this Institute, which he hoped would be life-long, would always be most cheerfully rendered, in the strong belief that no Institution more deserved help from engineers, and support from the profession generally, than the Institute of Marine Engineers. He then announced that refreshments would be served in the Council Room, and the entertainment arranged by the Committee would then be proceeded with.

The following was the programme, and at the close a vote of thanks was accorded to the ladies and gentle-

men who had so kindly contributed to the enjoyment of the evening:—

ADDRESS.—J. FORTESCUE FLANNERY, Esq., M.P., J.P.  
(President).

ADDRESS.—G. W. MANUEL, Esq., R.N.R.  
(Past-President).

### PRESENTATION OF PRIZES

(AWARDED LAST SESSION) BY

MRS. FORTESCUE FLANNERY.

#### INTERVAL.

- PIANOFORTE SOLO .. “Le Ruisseau” .. *H. A. Wollenhopft.*  
MISS WEHAUSEN  
(*Silver Medalist, L.A.M.*)
- SONG .. .. “Queen of the Earth” .. .. *Pinsuti.*  
MR. F. GOMM.
- TRIO .. .. .. .. *Weidig.*  
MISS ADELINE AUKLAND, MISS ELSIE SQUIRE,  
MISS OLIVE AUKLAND.
- SONG .. .. “Sunshine and Rain” .. .. *Blumenthal.*  
MISS AGNES FAIRBAIRN.
- MUSICAL SKETCH .. Selected .. .. ..  
MR. ROLAND HENRY.
- SONG .. .. “The Chimney Corner” .. .. ..  
MISS ALICE DAVIES.
- PIANOFORTE SOLO .. “La Rose Bleue” .. *Mrs. Roland Taylor.*  
MISS WEHAUSEN.
- SONG .. .. “For all Eternity” .. .. *Mascheroni.*  
MR. F. GOMM.
- TRIO .. .. .. .. *Beethoven.*  
MISS ADELINE AUKLAND, MISS ELSIE SQUIRE,  
MISS OLIVE AUKLAND.
- SONG .. .. “Good-bye” .. .. *Tosti.*  
MISS AGNES FAIRBAIRN.
- MUSICAL SKETCH .. Selected .. .. ..  
MR. ROLAND HENRY.
- SONG .. .. “Tears” .. .. ..  
MISS ALICE DAVIES.

AULD LANG SYNE.

GOD SAVE THE QUEEN.

## P R E F A C E ,

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58, ROMFORD ROAD,

STRATFORD, E.,

*December. 11th, 1897.*

The Ninth Annual Conversazione, in connection with the Institute of Marine Engineers, was held in the Town Hall, Stratford, on Friday evening, December 3rd, when a large company assembled to receive the President's address, to enjoy the companionship afforded on such an occasion, and the recreation provided by the Committee. The collection of exhibits, conspicuous in former years, was this year kept within somewhat smaller limits.

The Office Bearers and Members of Council present were:—Sir A. John Durston, K.C.B. (Past President), Messrs. John Clark, C. S. Du Sautoy (Southampton), J. M. Gray, R. Leslie, A. W. Robertson, and J. H. Thomson (Vice-Presidents); Messrs. T. W. Wailes, A. E. Smithson and T. A. Reed (Bristol Channel Representatives); Messrs. John Adamson, J. Belloch, A. Blair, A. G. Crichton, J. R. Ruthven, J. T. Smith, and W. I. Taylor (Members of Council), and F. W. Shorey (Hon. Treasurer), C. G. Newby (Hon. Minute Secretary), and Jas. Adamson (Hon. Secretary).

The following exhibits were arranged around the hall:—From Mr. W. G. Walker, 47, Victoria Street, Westminster, two competing fans, showing the relative power of each in action; Rev. G. M. Capell, models and working model of the Capell fan; Messrs. Crompton, Limited, Kensington Court, W., electric thermometer and other scientific novelties; Messrs. Yarrow, Limited, Isle of Dogs, Poplar, models of torpedo boat,



Nile boat, and railway for conveying same; Mr. James, chief engineer, s.s. *Australasian*, a pair of compound engines—this was a beautifully complete model, made by the exhibitor; Mr. A. D. Low, People's Palace, drawings and specimens of work done by the students; Mr. Troupe, Fenchurch Street, a time recorder—this is a clock with a special movement and recorder to indicate the rounds and times of watchmen and others; Mr. Fawdon, chief engineer, s.s. *Perthshire*, case of birds; Mr. J. R. Ruthven, half model of boat propelled by water jets, and section of boat showing the pumps for water propulsion; Messrs. Dewrance, photos and drawings and prints of historical and special interest; Mr. Brewer, machine for finding load line of vessels; Messrs. Brown, Limited, model of boiler for using heated gases; Mr. J. Elmslie, half model of yacht; Mr. J. A. Thomson, drawings, &c., done by exhibitor; number of photos and paintings of steamers built on the Clyde, old relics, &c., exhibited by the Institute and members, including spears, &c.; also several relics of the Indian mutiny, recently sent from India.

The President was received and accompanied to the platform by a Reception Committee, consisting of Messrs. Jas. Adamson, T. F. Aukland, John Clark, H. A. B. Cole, C. S. Du Sautoy, R. Leslie, S. C. Sage, and J. H. Thomson, and delivered his address, which follows hereafter.

JAS. ADAMSON,

*Hon. Secretary.*

# INSTITUTE OF MARINE ENGINEERS. INCORPORATED.

SESSION



1897-8.

*President*:—J. FORTESCUE FLANNERY, ESQ., M.P.

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## ANNUAL CONVERSAZIONE.

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### PRESIDENT'S ADDRESS.

LADIES and GENTLEMEN,—Whilst rejoicing in the annual celebration of this young, but important and increasingly influential Institution, we never lose sight of the fact that marine engineering is a profession of daily recurring and ever increasing and more fascinating interest, of which no practitioner worthy of the name can fail to be proud. We belong to the brotherhood of a profession which we love for its own sake. With such sentiments, every link with the history of the past, every forecast of the future, is a contribution towards that ambition, that enthusiasm for science which sweetens the labour by which we gain our daily bread. Looking back to the earliest history of the use of steam for the generation of power, we can trace its progress by successive broad stages. The raising of water from mines by the rude process of filling an iron vessel with steam, of its condensation and subsequent suction upwards of the water to be raised; the next step of progress, a piston moving through a cylinder heated by steam, then cooled by the water of condensation at each stroke: the epoch-making discovery of James Watt of condensation in a vessel continuously cooled but separated



from the continuously heated cylinder ; the scarcely less important discovery of Wolfe, of separate expansion in separate or compounded cylinders brings us to the contemplation of the modern fast-running high pressure steam-engine combined with the water-tube boiler with all its mechanical refinements. One is struck with the marvellous resource of the human mind and with the vast aggregate mass of ingenuity and patient thought that through three generations of engineering study have wrought a change so marvellous. The evolution of Nature from the lowest forms of vegetable life to the highest form of animal life has been accomplished in countless thousands of ages. The evolution of mechanical science in the use of steam has been accomplished in a single century, but, through the ingenuity of the human mind, with comparative completeness almost parallel to the evolution from the lower to the higher forms of natural life. Well may Rudyard Kipling the poet of Imperialism, and also the poet of Marine Engineering, have sung—

“Lord, Thou hast made this world below the shadow of a dream,  
And taught by Time, I take it so, excepting always Steam.  
From coupler flange to spindle guide, I see Thy hand, O God :—  
Predestination in the stride of yon connecting rod.”

In all successive stages of the development of mechanical power, as applied to marine propulsion, one characteristic is paramount, and that is the increase of power developed in proportion to weight. From the beam and side-lever engine to the oscillating cylinder, from the cumbrous slow-moving paddlewheel to the light swift running screw propeller, from steam-pressure level with the atmosphere, to steam-pressure sixteen times above the level of the atmosphere, from the fire tube boiler with some of its plates nearly an inch and a half thick to the water-tube boiler whose heaviest part is one-sixth that thickness, from natural furnace combustion to forced or fan-driven combustion—every step has been to reduce the weight of machinery per unit of power. From a consumption of 8 lb. of coal per unit of power to a consumption of  $1\frac{1}{2}$  lb. of coal per unit of power, every successive stage has been to reduce weight of the



fuel to be carried per unit of power on board ship. The very central essence of all past progress has been the reduction of the combined weight of machinery and fuel. Another characteristic of progress has been the adoption of labour-saving machinery on board ship. Labour saving is doubly important in marine construction, because the space and weight occupied by each individual, and the food and water necessary for his sustenance, are of so much greater importance afloat than ashore. These labour-saving steam and hydraulic appliances have been used and are used for regularly loading and discharging cargo, for starting and reversing and handling the main engine, for steering the vessel by steam-driven apparatus, moving ponderous tillers and rudders. One of my own earliest recollections is the witnessing of the invention and fitting on board the steamship *Great Eastern* of steam steering apparatus, with its beautiful arrangements of mechanism for self-control, by Mr. Macfarlane Gray—one of the officials of this Institution. Through all these reflections as to the marvellous character of progress in marine engineering, one is struck with the humiliating truth that a large amount of now apparently obvious mechanism, simple in its action, has been taught the mind of man by experiment rather than by invention. One reflects with humiliation how truths unseen, stumbled over even by superior genius amongst those who have gone before us, have remained undiscovered until forced upon us by the voice of Nature herself. For example, the engineer who laid a toothed rack along the line of railway, geared into a toothed wheel belonging to the locomotive engine, overlooked the now rudimentary and obvious truth that the simple surface of the rails themselves offered all the grip necessary for propulsion. Again, the engineer who designed the engines of the *Great Britain*, the first steamship which crossed the Atlantic, labouriously provided heavy slow-moving engines running at 18 revolutions per minute, with an enormous wheel and elaborate tooth gearing to increase the speed of the revolution of the propeller shaft, which was worked at 60 revolutions a minute,

instead of the present simple expedient of smaller and lighter fast-running engines directly driving the propeller shaft. I cannot refrain from a brief allusion to the social and scientific advancement of the class to which we belong. It is now understood that whilst the marine engineer must be a practical mechanic, he may, if he chooses, be a scientist and a gentleman as well. The personal progress of the marine engineer has been, and must continue to be, at least equal to that of the machinery he designs and constructs, and equal to his increased responsibility. What a practical engineer may do in this age of personal competition and personal recognition is illustrated in the career of the Right Hon. Robert J. Seddon, a practical mechanic and also the Premier of New Zealand. This gentleman was the honoured guest in the happy Jubilee time not only of the nation amongst his countrymen in the Mother Country, but of his brethren amongst the members of this Institution. When the truth of the personal advancement, socially and scientifically, of the marine engineer is more fully and more officially recognised in the Royal Navy it will be better for the Navy and for the country. Nowhere in a ship is danger in war time greater, nay, nowhere is it so great—as in the engine-room with high pressure steam, and where the men work surrounded by machinery. Nowhere will death, when it does come, come in so horrible a form. Nowhere will cool courage and perfect discipline be so necessary to fight a ship and to secure victory. To the end of securing discipline as a measure not of mere justice to our profession, but as a measure of imperial interest and safety, the dignity and authority of engineering officers must be upheld and established. The Admiralty has recently taken a step of importance and of great encouragement to engineers by the establishment of a class of artificer-engineers, thus recognising the claims and the usefulness of a deserving class of engineers upon whom much responsibility is thrown. The discipline of the service prevents commissioned engineer officers themselves from agitating questions about which wide discontent prevails



amongst them, particularly as to the withholding from them of executive rank and authority. This Institution can do much towards pressing the truth and necessity for reform upon the Admiralty, and upon the country, and so long as the Institution includes amongst its members some who have seats in the Legislature of the country this reform will be pressed until it has been accomplished. So long as I have a seat in Parliament I shall never cease to urge the claims for justice to commissioned and subordinate engineer officers of the Navy, in the interest of the service and of the country. In the present aspect of marine engineering it is not too much to say that the "Transactions" of our Institution form a record of every professional question, and of every improvement in marine machinery, associated with modern times, and perhaps it is not too much to say that those "Transactions" contain also the germ of every suggestion for general marine engineering progress in the immediate future. The accomplished facts of marine engineering stand to-day that a speed has been attained at sea of 32 knots, or 36.6 statute miles per hour, but attained in vessels of extremely limited coal endurance, and therefore limited power of keeping the sea; that a speed of 22 knots, equal to 25.34 statute miles per hour, has been attained in vessels of ample coal endurance and capable of keeping the sea in all weathers; that engines and boilers have been manufactured so mechanically perfect that instances are common of continuous steaming for 6,000 miles without stopping or even easing down the engines from their fullest speed, from the commencement of the voyage to its finish. In the new vessels to perform the important mail contract between Canada and the Mother Country, so patriotically initiated by the Canadian Government and so wisely approved by the Home Government, a higher speed in proportion to size and length than has hitherto been realised is expected, because a new form of hull structure, allowing more proportionate weight to be allotted to propelling power, is being adopted. We have here another instance of mutual support toward progress which marine engineers and naval architects may render



which by reason of increased size and adaptability might be expected to realise a speed of 40 knots. I well remember how, nearly 20 years ago, when torpedo-boats were first revolutionising the speeds obtainable through water, a remark being publicly made by Sir William White, now the honoured and universally-esteemed Director of Naval Construction. He pointed out that these little vessels, taken as points of departure, would show how large ships might be made to attain a high speed. This prophesy has been realised, and the genesis from the little torpedo-boat has been largely accomplished; and now sea-going ships of the largest size, both for fighting and for passenger transport, are attaining railway speeds, because of the application of the principles and experience demonstrated in the small pioneer vessels. The still more wonderful speeds attained by small vessels of the present day will extend themselves; the combined influence of higher speeds of revolution of shafting, high-pressure steam, and more concentrated, and therefore lighter fuel, will enable us to construct vessels in the immediate future travelling at sea with the speed and regularity and with the commercial success of express trains on land. Into the remote possibilities of future progress I will not presume to enter. The sea-going vessel propelled by electricity, the ocean ship driven by the direct-acting petroleum engine may all be of the future, and may form the familiar topics of the presidential addresses of this Institution when you and I have passed away. For ourselves, we can look back with pride on the past, regard the present with satisfaction and the future with unbounded confidence, always remembering that, like the great philosopher Newton, we may count ourselves but as little children gathering pebbles on the seashore, whilst the great ocean of truth lies unexplored in the far beyond.

The HON. SECRETARY said the pleasing duty devolved upon him of asking them to join in a hearty vote of thanks to the President for the address to which they had listened with very great pleasure. They had

had a good deal of food for thought placed on record, and he hoped that at their future meetings there would be many papers issuing from some of the thoughts put before them. The historical part of the address, he had no doubt, a great many of them were burning to discuss. His thoughts while the President was speaking flowed back to the time of the Egyptians, as in the traditions of their day they found evidence that the priests used steam; and yet it took a long time for the idea to remain buried in the earth only to be developed about 100 years ago, as referred to by the President. When they came to look upon shipbuilding from the naval architects' point of view they found that the question "Can iron swim?" was put before the world a good many hundred years ago, he should almost say a thousand years (B.C. 893) - before the idea was unearthed and brought into practical shape, when the first iron barge was built and launched on one of the canals (about 1787). He did not want to occupy the time by enlarging on points which he had no doubt many of them would discuss and would ponder over in their leisure hours, meantime another programme was before them, and he therefore asked them to agree with him in according a hearty vote of thanks to the President for his address.

Mr. LESLIE said it was a pleasant duty to have to second this vote, and he was sure they would all give it their heartiest approval, for he looked upon Mr. Flannery as one of the great friends of their Institution. As President for the year he had carried out his duties in a first-class manner, as they would say in the engineering world, and he hoped they might look forward to many presidents of his stamp. He believed and hoped they might have presidents who would be in touch with Parliament, so that they might be sure of being represented, and also sure of having engineering matters of vast importance laid before the country in a straightforward way, and he might also say in a mechanical way, because if there were any bearings out of line there was sure to be friction. It was pleasant to see that they were getting rid of ships being out of line,



and he hoped Mr. Flannery, when he left the chair, would continue to do his best for the marine engineers.

The motion was carried with enthusiasm.

The PRESIDENT, in reply, said: The best thanks that can possibly be given to any president of this Institution lie in the attention and respect with which the members and their ladies listen to the presidential address, and on this point I have had to-night every reason to be proud and well contented. Let me say that the thanks do not lie from the members to the president, but from the president to the members. You have been good enough, by placing me in this position, to put the hall mark on my professional career. I regard my year of office in this Institution, of which I have been many years a member, and of which I hope during the rest of my life to continue a member, as the zenith of my professional career. No president can perform his work unless he is amply supported. In this respect, the Institute of Marine Engineers has in the honorary secretary, Mr. Adamson, a source of unbounded strength. I often wonder how he devotes himself, as he does, to the work so enthusiastically and so unremittingly for the Institute. Let me, before the formal part of these proceedings terminate, ask you to join with me in a word of thanks informally to Mr. Taylor, the chairman of the Recreation Committee. To Mr. Taylor, the arrangements for to-night, and the whole of the arrangements for the remarkably successful dinner of the Institute last June, are to a very large extent due, and I am sure that the success of these social evenings means largely the success of the Institution as a whole; and I am certain that we are only too anxious to give Mr. Taylor the fullest and the warmest thanks for the work which he so thoroughly and so successfully performs. Ladies and gentlemen, during the few months that yet remain of my performance of the duties of my office, I ask you to give me the same support and indulgence that you have hitherto rendered me, so that we may all, by working together, do something towards the continued progress of this Institution, whose national importance, I believe, can never be exaggerated.

Selections on the organ were then given by Mr. H. L. Balfour, while the chairs were removed from the hall to prepare for dancing. The programme for the whole evening was as follows:—

**Part I.**

**6.30.—Tea in Council Room.**

**6.30.—ORGAN RECITAL**

By H. L. BALFOUR, Esq. (ORGANIST ROYAL ALBERT HALL).

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|----------------------|--------|--------------|
| 1.—GRAND CŒUR        | ... .. | Hollins.     |
| 2.—MINUET AND TRIO   | ... .. | Vincent.     |
| 3.—THE WEDDING MARCH | ... .. | Mendelssohn. |

**7 to 8.—In the Main Hall.**

- |       |                            |        |             |
|-------|----------------------------|--------|-------------|
| SONGS | (a) "The Auld Plaid Shawl" | ... .. | Haynes.     |
|       | (b) "The Hundred Pipers"   | ... .. | Old Scotch. |
- MR. SYDNEY JAMIESON.

- |                    |                             |        |           |
|--------------------|-----------------------------|--------|-----------|
| ZITHER BANJO SOLOS | (a) "Harmonious Blacksmith" | ... .. | Handel.   |
|                    | (b) "Lavinia Waltz"         | ... .. | Cammeyer. |
- MR. ARTHUR HILTON.

- |      |                           |        |              |
|------|---------------------------|--------|--------------|
| SONG | "When the Heart is young" | ... .. | Dudley Buck. |
|------|---------------------------|--------|--------------|
- MISS MASIE RIVERSDALE.

HARP SOLOS—MR. G. T. MILES.

HUMOROUS SKETCH—MR. ROLAND HENRY.

- |       |                            |        |             |
|-------|----------------------------|--------|-------------|
| SONGS | (a) "Mary"                 | ... .. | Richardson. |
|       | (b) "A Wandering Minstrel" | ... .. | Sullivan.   |
- MR. SADLEUR BROWN.

- |             |                 |        |              |
|-------------|-----------------|--------|--------------|
| CORNET SOLO | "Ora pro Nobis" | ... .. | Piccolomini. |
|-------------|-----------------|--------|--------------|
- (With grand Organ accompaniment).  
MAJOR J. H. TAYLOR.

- |                 |                 |        |               |
|-----------------|-----------------|--------|---------------|
| HUMOROUS SKETCH | "Our Rehearsal" | ... .. | Roland Henry. |
|-----------------|-----------------|--------|---------------|
- Mrs. HAMER TEWER (who is stage-struck),  
MISS MASIE RIVERSDALE.

Mr. HAMER TEWER (who isn't),  
MR. ROLAND HENRY.

SHADOWGRAPH ENTERTAINMENT—MR. FRANK KENNARD.

**7.30 to 8.30.—In Ante-Room.**

**NOVEL CINEMATOGRAPH ENTERTAINMENT.**

Messrs. ARTHUR C. BROOKES & CECIL M. HEPWORTH

Give their celebrated Entertainment, consisting of a number of interesting and Beautiful Living Photographs, including a short descriptive piece, entitled

"THE STORM,"

And an episode from Her Majesty's Diamond Jubilee Celebrations.



## Part II.

**8.—PRESIDENTIAL ADDRESS**

By J. FORTESCUE FLANNERY, Esq., M.P.

Some successive Steps in the past Progress of Marine Engineering.

Its Existing Condition.

Some Possibilities of the Future.

**8.30 to 9.—ORGAN RECITAL**

By H. L. BALFOUR, Esq. (ORGANIST ROYAL ALBERT HALL).

- 1.—MARCH FROM "SCIPIO" ... .. *Handel.*
- 2.—GAVOTTE DE LOUIS QUINZE ... .. *M. Lee.*
- 3.—GRAND FANTASIE ON SCOTCH AIRS *Dr. A. L. Peace.*

**9 p.m. to 3 a.m.—BALL.**

MR. THOS. BIDGOOD'S QUADRILLE BAND.

M.C.—MR. WILLIAM I. TAYLOR.

Assistant M.C.'s { Mr. WILLIAM WHITE.  
 { Mr. GEORGE THRELFALL.  
 { Mr. GEORGE NEILL.

## PART I.

DANCES.		MUSIC.
1. Polka ... ..	...	<i>Bon Vivants.</i>
2. Quadrille ... ..	...	<i>The Gay Parisienne.</i>
3. Valse ... ..	...	<i>The Garden of Sleep.</i>
4. Barn Dance ... ..	...	<i>De merry little Niggah.</i>
5. Lancers ... ..	...	<i>The Circus Girl.</i>
6. Highland Schottische ... ..	...	<i>Bonnie Lassie.</i>
7. Der Styrien ... ..	...	<i>Original.</i>
8. Marine Engineers' Quadrille ... ..	...	<i>Up to Date.</i>
1st Fig.—5th Lancers	3rd Fig.—3rd Lancers.	
2nd „ —1st Quadrille	4th „ —5th Quadrille.	
5th Fig.—Waltz	Cotillion.	
9. Valse ... ..	...	<i>Whisper and I shall hear.</i>
10. Quadrille ... ..	...	<i>...Souvenir D'Auber.</i>

## PART II.

11. Lancers ... ..	...	<i>The Geisha.</i>
12. Valse ... ..	...	<i>The Circus Girl.</i>
13. Alberts ... ..	...	<i>The Motor Car.</i>
14. Berlin Polka ... ..	...	<i>Alsations.</i>
15. Quadrille ... ..	...	<i>Olivette.</i>
16. Barn Dance ... ..	...	<i>De gone Coon (Bidgood).</i>
17. Lancers ... ..	...	<i>A Giddy Night.</i>
18. Valse ... ..	...	<i>Fidelite.</i>
19. Quadrille ... ..	...	<i>Marquerite.</i>
20. Valse and Galop ... ..	...	<i>Bid me Good-bye &amp; The Mistral.</i>