

INSTITUTE OF MARINE ENGINEERS INCORPORATED.

SESSION



1904-1905.

President—THE HON. C. A. PARSONS, M.A.

Local President (B.C. Centre)—LORD TREDEGAR.

ANNUAL DINNER.

THE FOURTEENTH ANNUAL DINNER of the Institute was held on Wednesday evening, October 19, in the Hamilton Hall, Great Eastern Hotel, Liverpool Street, E.C., presided over by the Hon. C. A. Parsons, M.A., C.B., who was supported by Past Presidents Engineer Rear-Admiral Sir John Durston, K.C.B., Sir Thos. Sutherland, G.C.M.G., John Inglis, LL.D., Sir J. F. Flannery, M.P., John Corry, Esq., D. J. Dunlop, Esq., G. W. Manuel, Esq., and A. Beldam, Esq.; and Admiral Sir John Dalrymple Hay, G.C.B., Sir Horace Tozer, K.C.M.G., Lieut.-General J. F. Owen, C.B., Sir Alfred S. Haslam, M.P., Engineer Rear-Admiral Jos. A. Smith, R.N., Walter J. Howell, C.B., W. Garrett, Esq., LL.D., J. B. Wicksteed, Esq. (President, Institution Mechanical Engineers), Jas. Denny, Esq., R. Kaye Gray, Esq. (President, Institution Electrical Engineers), J. T. Milton, Esq.,

H. P. Cornish, Esq. (Lloyd's Registry), E. H. Brown, Esq. (Vice-President, Institution Engineers and Shipbuilders, Scotland), H. N. Malan, Esq. (Registrar-General Shipping), Captain Williamson (Glasgow), and others, including members and friends to the number of about 300.

Toast—"THE KING."

The CHAIRMAN: I propose the toast of "His Majesty the King." Since his accession to the throne he has done much to promote the peace of the world, and by his great influence has to a remarkable degree drawn towards this country the goodwill and friendship of other nations.

Toast—"THE ROYAL FAMILY."

The CHAIRMAN: Since her Majesty came to our shores she has been beloved by her people, and by her active solicitude for their welfare she has endeared herself to their hearts. The Prince of Wales has shown himself to be a worthy son of our King, and on his return from his tour round the world he showed by his speeches that he was appreciative of the importance of attaching the Colonies to the Mother-country and of consolidating the British Empire. And we are also delighted to know that the Royal house is much interested in all that concerns the welfare of this nation.

Toast—"THE NAVAL AND MILITARY FORCES OF THE EMPIRE."

Sir FORTESCUE FLANNERY, M.P.: There are very few in this room who do not remember the entire change in the customary method of proposing this toast in public, although never a change in the method of receiving it, because it is always received with unbounded patriotism and belief in the power of our soldiers and sailors to perform their duty as they have always done. It used to be sufficient for a speaker to make that assertion, to say our men were as brave as in the days of old, and the hearers in the country were satisfied that they were fully protected.

To-day the country is beginning to realise that without preparation—preparation of the most complete and definite kind, organisation extending through many years of patience and of enterprise—the country cannot be considered safe. That is the great truth which has been forced upon us by the progress of science, by the development of the mechanical arts in connection with the art of war. To-day we are witnessing a great struggle in the Far East, and we realise that the position of Japan is very similar indeed to the position in which Great Britain might be in certain not very improbable combinations. An island peopled by patriotic citizens, brave and ready for self-sacrifice, personally and individually; a population of forty millions, similar, almost identical to our own; and an enemy upon the continent near to the island, an enemy who has to be reckoned with, and who must be defeated if the existence of Japan as a nation is to continue. And by what means is Japan working out her own salvation? She is working it out by the preparations which she has made—largely with the assistance of the engineers and mechanics of this country—patiently for the last ten years. She has command of the sea—she has the control of the waterway between her own island and the adjacent country, and so long as she has that her position is secure, and so long as she has men who may be transported across that sea, ready to fight for the fatherland, she is safe in regard to the possibility on the continent adjacent to herself. That is the condition, almost identical, that is represented by this country, or that might be represented by this country, if she did not thoroughly understand the necessities of ample preparation. Sir, we have prepared ourselves in our fleet, we have prepared ourselves not for aggrandisement, not for glory, but for the honour, for the safety of our country. That is the preparation to which we look with confidence, and which we believe we are justified in making, and which we shall honour in the men who have

assisted, in the toast that I shall ask you to drink to-night. I couple this toast with the name of Sir John Hay, formerly Sea Lord at the Admiralty, and President of the Armour Plate Committee; also with the name of General Owen, President of the Ordnance Committee, and who has had a wide and useful military experience in our great colony. Both of these gallant gentlemen are associated with the mechanical side of war preparations in regard to the Armour Plate and the Ordnance Committees respectively, and if there is one lesson more than another which their association with the toast can teach us, it is the importance of the Imperial side of this toast, the importance of the assistance which we shall get from our colonies, the necessity for grouping our colonies with ourselves, with the motherland, not merely in regard to commerce and art, but in the great scheme of Imperial national defence. Gentlemen, I ask you to drink this toast, "The Naval and Military Forces of the Empire," who will in future, as in the past, co-operate together not for glory, not for aggrandisement, but for the safety and welfare of this great inheritance which is so proudly our own. (Applause.)

Admiral Sir JOHN C. DALRYMPLE HAY: First of all, let me say with what great satisfaction I received the invitation to attend this banquet. I am afraid I am not a marine engineer, but I have derived in the earlier stages of my career great advantage from having applied myself to some portions of that science, and no naval officer can pass into the stage of retirement without recollecting that in the active days of his career it was to this great society to whom he was principally, or at least greatly, indebted. Sir Fortescue Flannery has reminded us of the services of the Navy. They are known, and I shall not attempt to detail them. I know how enthusiastically the Navy, and especially the younger men, are received by our country, and I am quite sure that it will not be disappointed if

the Navy is called upon to perform any service. Sir Fortescue Flannery alluded to the war, in which Japanese pupils of ours are showing what can be done by getting command of the sea. I hope we shall never forget that the world of water is our home, and "our heritage the sea," and that the ocean is ours. We must never allow even Japan to suppose that they are more than imitators of ours. Even the sea that washes the shores of the East must be commanded by the British Navy. The peace and prosperity of this nation depend on the control of the ocean, and there is no fear for this country if we remember that the ocean washes the shores of our enemies. I hope we have none ; but if we have, this country—this land—can defend itself. There are plenty of Volunteers and other people to defend it, but we must have a strong Navy to shut up all other navies in the ports from which they might issue, and we must take care that the lines of communication upon the ocean are entirely policed by the British Navy. Those are maxims which are known to you, and which I venture, as a very old hand, to again enforce. I thank you for permitting me to return thanks for the Navy. (Cheers.)

Lieut.-General J. F. OWEN, C.B. : As a soldier I confess feeling rather at sea in addressing this great meeting of marine engineers. We soldiers, as you know, fight not on the ocean wave, unless it may occasionally be against that base enemy *mal de mer*. I confess to feeling somewhat as did that Eton boy who, so the story goes, at a formal lunch at his father's house found himself seated next to a bishop. He thought he must say something of a Scriptural nature, and after beating his brains for some time, he pitched on a happy solution, and turning to the bishop said : "For God's sake, Bishop, pass me the salt." Every soldier must know how vast is the good that the marine engineer has done for this mighty Empire by providing the means which will take our forces in a short time to the most outlying parts of the Empire—of that

Empire which, as you know, touches on each ocean, borders on every sea. Where should we have been as regards South Africa but for the marine engineer? The ocean was covered with great lines of steamers, which carried our troops out in time to save the situation. The Empire owed much to the advanced resources of that fleet, which had been provided by the skill and energy of the marine engineer. As a soldier I have in many ships ploughed over many seas, and there is many a lesson we may learn from the marine engineers who design and from those who work these great engines. What can surpass the courage, pluck, and energy of those who, in the very bowels of the ship, are always in peril of their lives in war and peace, and who ensure the passengers' safety and comfort until they land at their destination? We all know how much the Empire and the Army owe to the marine engineer, and I am sure I speak for the Army when I say that I wish and hope that this Institute will progress—as it certainly will—with a success equal to that which has accompanied it in the past. I thank you for the kind way in which you have received the toast of the Army. (Cheers.)

Toast—"THE INSTITUTE OF MARINE ENGINEERS."

SIR THOMAS SUTHERLAND: The toast which has been committed to my charge may, I suppose, be considered as really the toast of the evening. I ask you to drink to the Institute of Marine Engineers and to its future prosperity. I think we may fairly assume from the appearance of this room to-night that the Institute of Marine Engineers has already become an adequately prosperous concern. It may not have attained great antiquity, and for that very reason it is perhaps more active, more versatile, and more devoted than it would be if it were a hundred years old. The pious founder has not yet had time to accomplish his work in connection with the Institute, but I doubt not that there are some gentlemen listening to me this evening who are

thinking of those testamentary dispositions which will eventually enrich this society to a very large extent. I believe I am right in saying that the Institute only commenced its career about fifteen years ago. It has already attained—indeed, some years back it had attained—a membership exceeding a thousand. That its aims may be considered to a certain extent social may well be understood from the fact that men pursuing the same career, engaged in similar pursuits, would naturally wish to meet together on occasions to exchange their views and sympathies, and enlighten each other in regard to their experiences. But the aim of this Institute is far higher than that. It is, I am informed, and I believe, intended to raise and improve the status of the marine engineer in every direction, and to that end its efforts are constantly directed. I am told that, in the short period of its existence, something like 150 learned papers have been delivered by members of this institution, including those, of course, of its presidents—those very eminent men who have condescended to deal with the questions in which we are all interested, but assuredly no one more eminent or more able to treat of those questions, especially of those advanced questions relating to marine engineering, than my honourable and distinguished friend who occupies the chair to-night. It is hardly necessary that I should direct your attention to the vast importance of the business in which you are engaged—the avocation you daily follow. It is enough for me to say that upon the marine engineer rests the great fabric of the mercantile marine of Great Britain, and without that mercantile marine I need hardly tell you that Great Britain would at once sink to the level of a third or fourth-rate European Power in time of peace, while in time of war I think it might be justifiably alleged that she would be in danger of starvation. It is not necessary that I should dwell upon the importance of your industry, but let me say one word, and one word only, with regard to that marvellous evolution

which has marked the progress of marine engineering during the last half-century. My recollection goes back to the time when a steam pressure of 12 lb. in a boiler applied to a side lever engine was considered a most creditable achievement. I do not think it is forty-five years ago, if so much, since that great advance in marine engineering was made by which the jet condenser was turned into a surface condenser, leading by degrees to the higher pressures with which we are now so well acquainted. And following that distinct advance came another great step, namely, the advent of the compound engine; and it is one of those circumstances which has often struck me as showing how appropriate inventions appear to be to the time when inventions are actually achieved that the compound engine made the fortune of the Suez Canal, and the Suez Canal made the fortune of the compound engine. We go on by degrees, and we have at last arrived at that point at which your honoured president is now the great pioneer; and we are glad to think that among the achievements, I hope, of next year will be the success of those great Cunard vessels which are to outbeat in speed everything that we have ever seen. I am one of those who by reason of my occupation am of necessity brought into contact every day, every hour, with the work of the marine engineer, and I can assure you I can never cease to wonder at the perfection of the machinery which he controls and at the marvellous success of the results which are obtained. When I see enormous vessels steaming at considerable speed over distances of 80,000 or 90,000 miles a year, year after year, without interlude, and without mishap or accident of any kind, I say that that result is so marvellous that everyday familiarity can never obliterate one's sense of its greatness. And it is not only the result in point of safety that is so extraordinary. There is also the marvellous economy which has been secured in recent years. (Hear, hear.) I suppose it is no exaggeration at the present moment to say that a pound of coal

now does five times the work that it did only thirty or forty years ago at least ; and, as some of you know, I have constantly, in season and out of season, preached this text—that if people would only be wise in their generation they would travel at sea a great deal more than they do, in order to save their purses and to grow wise in every respect. I have produced and patented an engineering formula that you can travel round the world at the rate of a penny per mile, with four meals included every day, and that in doing so you will not only increase, in all probability, in width, but also in wisdom and understanding. I do not know, I cannot guess, what the progress of the future may possibly be, and so far as I am personally concerned I should be glad if for the next few years the engineers will refrain from any too revolutionary ideas. But be that as it may, taking the progress that has been made during the nineteenth century as some indication of what may be the progress of the future, we can only envy those who will see at the end of the twentieth century the achievements of the marine engineering world, and who will then happen to be members of the Institute of Marine Engineers. I ask you, therefore, to drink this toast with all cordiality, more especially as it is to be responded to by your distinguished hon. secretary, who has done so much valuable work in order to promote the interests of the Institute. I give you the toast of “The Institute of Marine Engineers,” and I couple with the toast the name of my friend Mr. James Adamson. (Loud cheers.)

Mr. JAMES ADAMSON (Hon. Secretary) : This is the first occasion on which a past-president has proposed the toast of the Institute, and, as the circumstances surrounding the arrangement were not premeditated, I hail the change as an auspicious augury, and I am quite sure that all who have listened to Sir Thomas Sutherland will agree with me in this. We have heard in past years expressions of views from gentlemen outside the circumference

looking towards the circle of our operations. Now we have one who has been within the lines and knows something of the inner life, whose suggestions are therefore of the utmost value, and when we consider who that one is, the *a fortiori* of the proposition becomes manifest. We hope that the suggestive words of Sir Thomas Sutherland will bear fruit in an increased and increasing interest in the affairs of the Institute. With advancing years the knife of competition wears a keener edge, and the necessity for higher efficiency, and its handmaiden, economy, in working machinery is of growing importance. To the members of the Institute of Marine Engineers this necessity is ever presented to their attention, as the growth of shipping owned by other nationalities is noted from time to time where formerly the British flag was once alone seen to wave. Fresh colours are now found in evidence in every port to show that where we led the way others have followed, improving on our designs and methods—in some respects. Such appearances should stimulate us to keep on advancing—not resting on our oars, or trading on the reputation earned by our forefathers—by striving to protect past achievements rather than move with the times—but improving in every possible direction. To this end the Institute was founded and is carried on, but in order that the end may be attained and that the high ideals of the founders may be realised the co-operation and enthusiasm of every member is required, and I would take the opportunity of pressing this home to those who are present, and beg of you to look upon the annual event which has brought us together here as an earnest of—I cannot yet call it, as I would wish to do, a reward for attendance at the meetings of the Institute on Monday evenings. In some sense have the hopes of the founders borne fruit, and that they have not borne more is due to the lack of that keen co-operation and enthusiasm which were probably more widespread in the early days of the Institute than is the case now. While it is true that the interest and enthusiastic labours of the few

must of necessity be concentrated at the centre of effort, it is no less true that every member ought to support and sustain those who have to exercise themselves in self-denial for the good of all, and such support should be freely given, not only from a feeling of *esprit de corps*, but that the main issues, involving the very life and tone of the Institute, may be maintained, strengthened, and advanced. The breath of the Institute is in the papers and discussions which emanate from the members, and the more spirit and originality infused into these the better; departures from the beaten track to get fresh light on all subjects vital to, or allied with, marine engineering are what we want to induce discussion and extend our information and experience. The social functions of the Institute are intended as aids to the real solid work, and the ordinary meetings should receive even more attention and better attendance than these, or we miss the highest mark we aim at. Our age has been characterised by some writers as apathetic and indolent in respect to work which does not appear to give a return in gold directly. Let it be the aim and the glory of every member to shake himself free from such a characteristic, and determine that the Institute shall flourish and advance by the loyalty and devotion of its members to prove the converse of this charge, commencing at the doorstep of our own premises—premises which the liberality and broad-mindedness of some who have departed from us, and of others, like-minded, who are still with us, have provided. As an instance of the great interest taken in the type of machinery with which our president's name is so closely and popularly associated by reason of his dermination and application to develop it in its best form, it is related that a dignitary of the Church at a place on the west of our northern shores, well-known for its *spirit*, as well as for its landing-stage, regaled his hearers while leading the devotions of his congregation to a thought from his inner consciousness, and in a momentary fit of absent-mindedness besought a blessing on King Edward,

Queen Alexandra, and the rest of the turbine steamers. (Laughter and cheers.) We have now at our head as president one whom we delight to honour, whose past years have been spent amid many discouragements; but now the reward is being measured out amid the hearty congratulations of those who have watched. May our president flourish, and may the Institute under his presidency grow stronger and flourish likewise. (Cheers.)

Toast—"KINDRED INSTITUTIONS."

Mr. A. BOYLE (Vice-President): We have always had at our annual gatherings the honour and the pleasure of the company of gentlemen, distinguished members of kindred institutions—the Institution of Civil Engineers, of Mechanical Engineers, of Naval Architects, of Engineers and Shipbuilders in Scotland, and other technical associations, all doing splendid work, and giving opportunity to their members and students to become acquainted with the most advanced knowledge in their special subjects. We live in an age when it is felt necessary for men of the same profession to join themselves together for mutual benefit, and in the cause of good-fellowship. "As iron sharpeneth iron, so a man sharpeneth the countenance of his friend," was written by Solomon of old, and the words then penned by the wise king have equal force now. I will not stop to consider whether technical or other associations existed and flourished in those ancient days. I daresay they did, and I believe there are men who confidently maintain that one of those old-time brotherhoods continues even unto this day. Be that as it may, we all know the great advantage which these several professions have derived from their societies and institutions, where the means of communicating and receiving observations and experiences, the free interchange of ideas and friendly criticism of new proposals, have led to lasting benefit and progress. And if this is the case with the older

societies, composed as they are of gentlemen many of whom are in close touch with one another in private life, it is, I think, of even greater advantage in an Institute of Marine Engineers, many of whose members spend a large part of the years of their active life at sea, and have on that account but little opportunity of holding converse with one another, of listening to one another's experiences and ideas, with a dash of friendly criticism thrown in. This want was recognised by the founders of the Institute, as has been so eloquently referred to by Sir Thomas Sutherland and Mr. Adamson. Those gentlemen who founded the Institute were anxious that there should be a central meeting place, that marine engineers should have a corporate existence, not a rival to any of the then existing technical associations, but an institute of their own, whose aims and objects would be (to quote the words of the articles of association) "to promote the progressive advancement of marine engineers in a knowledge of their profession." We have been successful, Mr. President. Why, Sir, your presence in the chair this evening, with so many distinguished gentlemen on either hand, is a proof of our success. And I believe we owe the success we have attained in no small measure to the friendly hands held out to us by the members of kindred institutions. A considerable number of gentlemen belonging to one or another of those institutions became members of our infant Institute when it was yet weak in numbers, and gave us splendid assistance and support, and from the kindred institutions themselves—as voiced by their representatives on many occasions—we have always received the greatest sympathy and encouragement. Therefore, gentlemen, it is with the greatest pleasure that I, on your behalf, welcome the representatives to our table to-night. We have a goodly number of them with us, but I have not a complete list, so I will not enumerate the names, and I ask you with all confidence to heartily respond to the toast, which I beg to couple with the name of Mr. J. H. Wicksteed,

the president of the Institution of Mechanical Engineers. (Cheers.)

Mr. J. H. WICKSTEED (President Institution Mechanical Engineers): After the proposal of this toast by your vice-president I feel that there is a certain appropriateness in my replying on behalf of the kindred institutions, because there is no institution that is more close or akin to that of the Marine Engineers than the Institution of Mechanical Engineers. In one respect, I think, you have the advantage of us, and that is in respect of having the club element in connection with your society. That is a thing that we have often longed for, but never yet achieved. I think it would be a great advantage to the societies in London—that is, the Society of Civil Engineers and the other societies—if they had a club to which provincial members could come, and to which the city members could also come, and foregather on occasions. In addressing a few remarks to you on this occasion it may be appropriate to record the fact that this is a centenary. This annual dinner of yours really forms a centenary of the year 1804, when Trevethick first put a high-pressure steam-engine, or locomotive, on to rails. Now, it is very curious, I think, that the last 100 years comprehend pretty nearly the whole of mechanical progress in the world's history. It was about the same time, as you all know, that Trevethick put a high-pressure locomotive on to rails that a steam-engine was put on to a boat—a little before that date in Britain and a little after that date in the United States. It was also about the same time that the power-loom was perfected. Therefore, I think, it is worthy of note that this year 1904 happens to be an occasion which represents a centenary of the introduction of the steam-engine both on land and water, and also the power-loom, and that the whole of the world's history in the development of machinery has taken place since that time. When we think of that, the progress that has

been made is perfectly marvellous. Replying for the "Kindred Institutions," I do not require a brief for defending the kindred societies. The existence of the kindred societies is justified by their success. The existence of this society is justified by this enormous room filled without any empty places, and it does not require much reflection to see that in the same way as steam increases the power of man, so organisations of this kind increase our power. We cannot increase the length of our days, but we can increase the volume of our lives—we can increase the breadth and the extent, we can increase the calibre. And this Institute increases the calibre in very many ways. In one way they increase it by pushing us about. This is what the mechanical engineers have done. It is a very great pleasure to receive the thoughts of others, and not be isolated in one's own thoughts. This year no fewer than five of our societies crossed the Atlantic in order to meet their brethren in the United States, and in order to see all the developments on that side of the Atlantic; and next year the British Association, which I am quite sure may be called a kindred society, from the fact that your distinguished president was president of the Mechanical Section at Cambridge this year of the British Association—this kindred society, I say, is going to the Cape, where it will hold its next annual meeting, and will make an excursion to the Falls of the Zambesi. We can read books of travel, we can read discussions of machinery, we can see them depicted on boards and sections, but there is nothing like seeing the machines themselves if you want to have a knowledge not only of how they are constructed, but also how they work; and if you want to know anything of the beauties of the world, of South Africa, and the Zambesi, there is nothing like going and seeing them for yourselves. That is what I call enlarging the calibre, the volume of your lives, making it a greater thing in retrospect, and a greater thing in existence. I have the greatest pleasure in returning thanks for this toast. (Applause.)

Toast—"OUR GUESTS."

Mr. ROBERT LESLIE, R.N.R. (Vice-President): We have with us to-night a number of gentlemen who have come to help us, by their presence, to carry on the work of this Institute. They are our guests, and without their presence and their assistance to help we should, I fear, not succeed so well as we are doing, and would not have the same latent force to carry on the work of the Institute. I speak as a member of long standing, as I was one of the first to join when it was founded. I must say that on each occasion of our annual dinner the guests have been to us of the greatest value, and I feel that we must do our best to thank them and ask them to appreciate our action towards them. We hope that their action towards us will always be on the same high plane. We have always had with us many eminent gentlemen of engineering experience at our dinners, and we are always ready to learn from them. By learning we increase our knowledge, and by so doing we hope to maintain our supremacy of the sea, so ably referred to to-night by one of the guests. By maintaining the supremacy of our navy—the Royal Navy to begin with, and the merchant navy to second—we are placing ourselves in a position of independence; and that must be done in a practical way—theory to help, practical rules to apply. We must as engineers keep moving ahead, and if we stick to each other, and unitedly, as Mr. Adamson has said, try to obtain a little more practical result at our Institute, we shall still maintain that strength of engineering faculty that I hope will never be equalled by anyone outside the British Isles and our Empire. The supremacy of our Empire, supported by our Imperial Navy and mercantile marine, is of the first importance to all lovers of our country and homes; and may the day be far distant when we fail to see the importance of Empire and home. Our President has devoted years to the system that he is now bringing, let us hope, to perfection. We do not know what is

in the future, but experiments are being tried at the present time on a large scale which will, no doubt, enable us to judge what marine engineering is coming to. If the success of the turbine is assured, it will mean an enormous revolution in engineering, and I believe the time is not far distant when the life of the reciprocating engine will be at an end. Gentlemen, I ask you to join very heartily in this toast of "Our Guests," and with it I couple the name of Sir Horace Tozer. (Applause.)

Sir HORACE TOZER (Agent-General for Queensland): The number of empty chairs reminds me of a duty. Time, I know, is with you the essence of the contract; I shall endeavour to fulfil my portion of it. I recognise in the selection of myself by the mover of the toast that you wish your first thought to be for your absent friends. I am indeed under a load of gratitude to you. I have been many times your guest, and I have also been one of those who have been indebted to the marine engineer under special circumstances. It has been my privilege to go round the world five times. I am pleased to say I am old-fashioned enough always to travel under the British flag. It is also my good fortune to contemplate taking another trip in a few days, in which I shall be indebted to the marine engineers for my safety. Thirty thousand miles across the water used to be considered a very long journey, but I wrote to my Government and spoke of my trip as if I was crossing the Channel. I sincerely hope, through the assistance of those who will carry me across the waters, that I may be back amongst you and at your next festive gathering, after undertaking a journey of thirty thousand miles. You may rest assured I shall carry to the marine engineers in the Colonies, many of whom belonged to your Institute, the kindness which has always been shown to those from distant places by this Institute. I know I speak the feelings of all the guests when I say that we have had to-night all the elements that constitute

enjoyment. We have had a splendid repast, we have had cheerful company, we have had enjoyable music and interesting and instructive speeches. All these things together have made for us a pleasure. We deserve and desire no thanks whatever for coming to your table. On the contrary, the debt of gratitude is by us. The best way we can show that is by saying that we all hope you will not forget us on another occasion. I have now had the pleasure of being with you many times. I can assure you that everybody who has come to these dinners of the Institute has gone away greatly pleased, and that will be our feeling to-night; and with that feeling I thank you, on behalf of the guests, most cordially for the kind entertainment you have given us and the excellent banquet we have enjoyed. (Applause.)

Toast—"THE PRESIDENT."

Mr. JAMES DENNY (Vice-President): There may be some gentlemen here who, through close association with Mr. Parsons, feel they would like to speak to this toast and to do honour to it, but if there are any such gentlemen here present I would only quote the words of St. Paul, that if they would like to do this, "I yet more," because, gentlemen, I have come to know Mr. Parsons intimately, although it is only five years ago that my firm became interested in the turbine question and entered into a correspondence with Mr. Parsons in regard to it. The outcome of that correspondence was that Mr. Parsons gave us an invitation to go through his works and to attend the trials of the *Viper*. I had the honour of being one of those who went through the works, and it was then that I first met Mr. Parsons. We ran a trial trip in the *Viper*, and at the beginning of the day circumstances were not auspicious. The engineers who were to run the trial disagreed with Mr. Parsons—whether justly or not one cannot say—as to the trial trip rate of wages. The engineers were obdurate, and as Mr. Parsons knew his own mind the engineers walked off the ship. Well, we all

thought that would end the day's proceedings; but Mr. Parsons was made of different stuff. We did not know exactly what he did, but we gathered that he turned on his apprentices to do journeymen's work, he picked up some men off the quay, borrowed some more from Messrs. Hawthorn, Leslie & Co., who had the contract for the hull and boilers, and made them all into a scratch crew for the trial trip. Under those circumstances the *Viper* ran her trial, and on that day did the unparalleled speed of 37 knots, a speed that has never been equalled by any ship afloat. That is by way of reminiscence of Mr. Parsons. Naturally, when the speed of 37 knots had been attained all on deck were jubilant, but when the crucial part of the trial was over Mr. Parsons emerged from the engine-room, dirty and warm, as such an occasion would warrant, but not at all elated, as the rest of us were. We all crowded round to congratulate him, but his only response was that he thought he "might have done a little better if the men in the stokehold had fired up harder." Since then I have met Mr. Parsons often. He has had close business relations with my firm. We have found Mr. Parsons a most honourable man of business, and in the greatest and best sense of the term a gentleman—a gentleman whose every thought and action seems to be actuated by the worthiest motives. Such has been our experience of him. Our relations have been indeed close, as during the last five years, and up till now, we have built, or are building, turbine steamers to the extent of fourteen, for ten of which Mr. Parsons has supplied, or is supplying, the turbines, while we are now serving an apprenticeship to turbine manufacture under the guidance of Mr. Parsons and his staff. When we first adopted turbine machinery no one else seemed inclined to do so, and it must be very gratifying to Mr. Parsons to find that many firms have now adopted turbines, or are adopting them; and it must also be in a measure equally gratifying to Mr. Parsons to know that many inventors are

turning their attention to improvements on his system. Well, I would like to say for the benefit of those gentlemen—and there may be some of them here this night—that they should not go too far or put too much of their money into those inventions in the belief that Mr. Parsons' progress in the evolution of the turbine has been without many deviations or that there have been no detentions or halts on the road. I have had the pleasure of going through Mr. Parsons' works, and have seen the very, very many relics of turbine inventions which he thought had improvements in them, but which he had been forced to abandon. To any gentleman who is inclined to invent a new system of turbine I can only give the advice that he had better ascertain from Mr. Parsons if he is not following one of those roads which Mr. Parsons has already trodden and marked "No thoroughfare." But in spite of all Mr. Parsons' genius—and I may say, without fear of contradiction, that since the day of James Watt no one has done so much to revolutionise motive power as Mr. Parsons has done—in spite of all his genius, he could not have gone very far if he had not had marine engineers behind him, marine engineers to put his ideas into shape, and marine engineers to actually construct his machinery; and, above all, those have the care of it afterwards, because in the latter respect Mr. Parsons is, like all engine-builders, practically helpless. So long as the machinery is under construction in his own hands he can inspect it carefully and see that it is to his mind, but after it passes out of his hands and into the hands of marine engineers Mr. Parsons is entirely dependent on them. So far, Mr. Parsons' experiences in this respect have been, I think, singularly happy. The marine engineers who have had charge of his machinery have done it full justice, and it seems to be singularly appropriate that, in view of what the marine engineers owe to Mr. Parsons, and also in consideration of how dependent he is on the marine engineers, that he should have been selected to be

president of this Institute. All of us must be especially gratified by the fact that this great development of marine engineering has come not from a foreigner, but from one of our own countrymen. (Loud applause, and three lusty cheers for the President.)

The PRESIDENT: It is very difficult—indeed, almost impossible—for me to find the words to reply to what Mr. Denny has said, or for the kind way in which he has spoken of anything I have done. It is too late now to talk of turbines. I have no doubt the reason I am here to-night is that I have been honoured by you by being selected as your president because of the turbine. In the development of any large or difficult mechanical enterprise I have found—and all who have been in the same position have found—that it is impossible to make headway without the co-operation of others. In my case I have had the good fortune to come across men who are prepared to sacrifice their ease and position, and to risk a great deal for the benefit of the community at large, and to persevere in the development they are pushing forward. In my case I have had the good fortune to come across many such men. I believe one reason why we in Britain have made more progress than they of other nations is because we possess more men of self-sacrificing disposition, who are determined to see fair-play, more so than they are in other countries. Amongst those gentlemen we have here with us to-night Dr. Garnett, who was one of the first of the patrons of the steam turbine. In the year 1887 he had the control of the electric lighting of the Newcastle Exhibition, and at that time he put in a very large instalment of turbines to the extent of 2,000 h.p. for lighting that exhibition. Next we have with us Mr. Campbell Swinton, who was one of the first to put turbines into ships for lighting purposes. Then we have Captain John Williamson with us, who, when the turbines were not receiving support from marine engineers, when the

steam turbine was in very low water, became the managing owner of the Clyde turbine vessels, who were the owners of the first mercantile steam turbine vessel, the *King Edward*. That vessel was the start of the steam turbine for use in commercial steamers. If the *King Edward* had not been launched I should probably not be here to-night. Then I am sorry that Captain Dixon, of Dover, who was to have been present to-night, has not been able to come. Captain Dixon was the first to adopt turbines for cross-Channel steamers, associated with which is the firm of Messrs. Denny. They took up the steam turbine almost simultaneously with Captain Williamson, and a little before Captain Dixon. Had it not been for their great assistance and loyal support it is unquestionable that there would be very few turbine vessels now afloat. To this society, representing as it does some 20,000 engineers sailing under the British flag all over the world, it is a matter of great interest to see how far turbines are likely to be supplied in the future. The steamers sailing under the British flag now represent about 9,000,000 horse-power, whilst those sailing under foreign flags represent about 7,000,000 horse-power. The turbine in its present stage might be applied to nearly 3,000,000 horse-power; the remaining ships are too slow for it to be applied to at the present time. The relative horse-power of turbines that have been made, are working, or on order is about 340,000 horse-power; that represents the amount of shipping to which they would be suitable. If I might be allowed to say a word about the society, I would observe that in view of the importance of interdependence between the marine engineer and the designer and the mechanical engineer it is very desirable that there should be some closer union between the Institute of Marine Engineers, the Institution of Mechanical Engineers, and the Institution of Civil Engineers. It would be advantageous if a common meeting-place could be arranged. The Institution of Civil Engineers is the parent of all other institutions in this country, and

it would be of benefit to them all if some co-operative system could be agreed upon in regard to a common meeting-place. This Institute has a very decent building and meeting-place, and if, as Mr. Wicksteed has suggested, the other societies could have a club and so contribute to intercourse between the members, how very desirable it would be. I have to thank you very much for the way you have received this toast, and I must also thank Mr. James Denny for the kindly way in which he has proposed it. I am quite lost for words to thank you sufficiently. (Applause.)

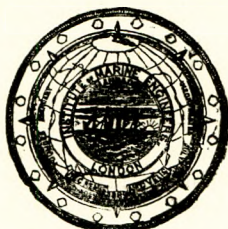
“GOD SAVE THE KING.”



INSTITUTE OF MARINE ENGINEERS

INCORPORATED.

SESSION



1904-1905.

President—THE HON. C. A. PARSONS, M.A.
Local President (B.C. Centre)—LORD TREDEGAR.

BRISTOL CHANNEL CENTRE

ANNUAL DINNER.

THE FOURTEENTH ANNUAL DINNER of the Bristol Channel Centre of the Institute was held at the Royal Hotel, Cardiff, on Wednesday, December 14th, 1904, the Right Hon. the Earl of Dunraven being in the chair. He was supported by Alderman Robert J. Hughes, J.P. (Mayor of Cardiff), Sir Edward Reed, M.P., Principal Griffiths, Mr. E. Franklin Thomas (President of the Cardiff Chamber of Commerce), Colonel Hill, Mr. James Hurman (Cardiff Railway Company), Mr. F. J. Robjett (President of the Newport Chamber of Commerce), Mr. Richard Evans (Barry Railway), Mr. Dan Radcliffe (President Cardiff Shipowners' Association), Mr. T. Hurry Riches, M.I.C.E. (Taff Vale Railway), Captain Rosser, Captain Sloggett. There was, in addition, a large attendance of members and friends, including most of the officers and members of committee of the Centre.

The loyal toasts were given from the chair, and honoured with great enthusiasm.

Mr. W. H. RENWICK, J.P., gave "The Imperial Forces" in a happily conceived speech. At a time when so great a struggle as that between Russia and Japan was going on peculiar interest attached to this toast. The nation could not think of spending less than they were spending at present in keeping up the first line of defence. Personally he thought the Navy was never in such a high state of efficiency as at present, and they were fortunate in having such a good man at the head of it as Sir John Fisher.

Colonel HILL, C.B., in responding, said marine engineers would be always sure of a hearty welcome from the Army, because the Army liked brevity in their passages, and thanks to the marine engineers they had it now.

Mr. EDWARD NICHOLL, R.N.R., also responded. The recent demonstration of the efficiency of the Navy, he said, made them all feel proud of it. The policy of the Navy was defence, not defiance, but the only guarantee of peace was to be prepared for war. Now he noticed that, taking the shipping of this country as a whole, 15 per cent. of the merchant shipping was manned by foreigners. In Cardiff they had 850,000 tons of shipping, of a value of six to seven millions sterling, and this great tonnage was manned by 50 per cent. of foreigners. Cardiff held the unenviable record in this matter. He felt that that was a most serious state of affairs. Speaking for himself he would say that so long as a British sailor could be obtained he would never employ a foreigner on his ships. They were all proud that Sir Edward Reed, M.P., was with them that night, for he had done more than any man living to bring the navies of the world to their present state of high efficiency.

Proposing "Shipping and Commerce," the NOBLE CHAIRMAN, who met with a cordial reception, said it was impossible to exaggerate the importance of the toast—commerce, the life-blood of the nation and

Empire ; shipping, which was essential to the carriage of commerce. We lived in an age of extraordinary mechanical contrivance. Every day saw some new invention which added to the efficiency of our ships, the comfort of passengers, the strength of hull ; we had made of steam a docile servant, and had captured the lightning and compelled it to serve the uses of man. In all these things he could only look at them, as it were, from a distance. In shipping he claimed, however, to possess a certain amount of both scientific, practical, and technical knowledge ; but it had reference to a class of shipping which had become almost obsolete—to the ship which was propelled by the action of wind upon sails. Of designing he had no special knowledge, but he did once design a little ship, of which he was more proud than of anything he had ever done. He designed a 20-rater, which proved wonderfully successful, winning a lot of prizes and holding her own for three or four seasons. But the picturesque wind-jammer was practically obsolete. A good many rules and regulations and restrictions had been framed and imposed upon British shipping, and very rightly so, for the safety of men's lives, and to ensure that a ship should go to sea in such a condition as to enable her to keep the sea. But it had sometimes occurred to him that although those rules and regulations were perfectly justified, and wise and humane, yet we applied them only to British ships, and not to foreign vessels using our ports and competing with us in our coasting and colonial trades. He had sometimes wondered whether this was absolute fair-play to British shipowners and shipmasters, and to the seamen who manned those ships, or to our trade and commerce. Steam nowadays held the sway, and we could look with pride and satisfaction upon our position in respect of modern appliances. In the construction of ships, of marine engines, the working of those engines, and in regard to everything relating to the construction, equipment, and maintenance of the modern ship, our designers,

engineers, and seamen still held their own before the world. The changes which had taken place were only commensurate with the enormous development which had taken place, for example, at Cardiff. It was from the port of Cardiff that he made his first expedition on the sea in a disused Cardiff pilot boat, which he called a yacht, but nobody else did. We had seen enormous changes in the engine since those days, culminating—or culminating for the present—in the turbine engine, the invention of the Hon. C. A. Parsons, President of the Institute of Marine Engineers. Then as to Commerce, it was difficult to say much about this question without entering into matters of a very controversial character. Commerce and manufacturing were inseparable, and many divergent views obtained as to the conditions under which our manufacturing and our commerce were at present carried on. Some people were dissatisfied with those conditions, and suggested remedies; others, also dissatisfied, thought that no remedy could be found; while others, again, were quite satisfied with the existing state of things. Well, he could not touch upon these three mental phases, but he would go so far as to lay down what would be universally recognised as an ideal. As far as shipping was concerned the ideal would be remunerative freights—he would say moderately remunerative freights—both inward and outward; and as far as commerce was concerned he thought the ideal would be that those inward freights should consist largely of material to be worked up, and the outward to consist largely of our manufactured goods.

The MAYOR, in responding, extended a hearty welcome to the Chairman on his visit to the Welsh metropolis. He wished the shipping industry a great deal more prosperity than had been its portion of late. He believed that the trade of Cardiff would receive a great impetus when the new dock was opened next year. Certainly they looked forward to

the future with satisfaction, and he hoped that the other ports of the Bristol Channel took the same view, because Cardiff did not fear any competition from them.

Mr. DANIEL RADCLIFFE said the shipping industry was not flourishing, but it was something to their credit that they held their own in competition with countries like France and Austria, which gave such large bounties to their shipping. It was possible for a French sailing ship to go round the Cape to the East and back to France without carrying a single ton of cargo, and yet pay a dividend of 5 per cent. out of her bounties. He should like to see foreign shipping visiting our ports subject to precisely the same laws as our own shipping. Foreign shipping was subject to our laws in loading out, but not inwards. Referring to the speech of Mr. Nicholl, he said it was absolutely necessary for shipowners to have recourse to foreign seamen to man their ships, for there were not enough British sailors to go round. Another phase was that the English sailor often made himself very awkward to deal with. At the same time Mr. Nicholl practised what he preached. He had only one son, and he had sent him to sea. In conclusion, Mr. Radcliffe advocated the establishment of a training ship for officers at Cardiff, and in the meantime he hoped shipowners would follow his firm in providing accommodation on their ships for the training of apprentices.

Mr. E. FRANKLIN THOMAS said the coal tax affected British shipping to a greater extent than any other trade. Of a total export of some 40,000,000 tons, he believed that less than one-eighth went to foreign navies. The tax did not, and would not if made £1 per ton, prevent foreign navies taking this comparatively small quantity of coal. But for the unfortunate war in the East our exports of coal would have shown an actual reduction. The excess war demand accounted for some 2,000,000 tons, and yet their exports showed an increase of no more

than a few hundred thousand tons. The coal tax was unfair to British shipowners, the largest coal consumers, and to the coal trade; any decrease in the coal exports tended to increase the cost of food imports, and he was glad to find that shipowners were now at one with the coal exporters in calling for the repeal of the tax.

Principal E. H. GRIFFITHS, in proposing the toast of "The Institute of Marine Engineers," said he would not weary them with the history of their society, although he had been provided with the material. The parent society started in 1889, and their own society in 1890, and the societies had grown into a powerful body with over 1,000 members, whilst their own branch had a roll of 200 members. Its history had been one of advancement and progress throughout its course, and he believed that the society in point of time and growth and its career of usefulness was yet in its youth. Its roll of members showed that at all events it did not consider pure science as entirely a foreign affair. Take, for example, the names of its President, Sir Wm. White, and Sir Edward Reed, present that night, and their list of local presidents. He thought that the Institute was destined to fulfil a great part amongst the societies of the country. He referred to the part physicists had played in aiding the work the society was interested in, pointing out the benefit that had been conferred upon the seafaring community by the discovery of the loadstone and the work of astronomers. He wished long and continued success to the Institute of Engineers.

Mr. T. W. WAILES, in response, thanked Principal Griffiths for his appreciative speech. He had pleasure in stating that one of the members of the Institute, Mr. Balfour, of London, a surveyor at Lloyd's, had been successful in gaining the gold medal of the Institute, and that the committee of Lloyd's had marked their appreciation of his success

by presenting him with a purse of fifty guineas. He felt that this was a great compliment to their Institute.

Mr. T. A. REED also responded. The history of the Bristol Channel Centre had not been altogether unchequered. He could remember the time when some indecision was felt as to whether the Centre should be continued or not, and when some half a dozen members had gathered together and decided to give it another trial. He thought the gathering to-night sufficient proof that it was still going on, and he hoped it would still continue to go forward. He thought one of the first interests of the country should be marine engineering. Marine engineering had done and continued to do much to bind the Empire together. He thought that the Government should offer greater inducements for engineers of the merchant marine to enter the Navy. A marine engineer was not content to enter the Navy as an artificer and remain as such. His desire was to rise to the top of the tree. The Secretary of the American Navy, speaking practically on behalf of President Roosevelt, had said that it was the firm intention of his department to have not only the finest navy, but also the finest merchant fleet in the world. It was to the interest of England to see that America did not surpass her in this respect. He made reference to the saving effected in the case of vessels of high speed by Mr. Parsons' steam turbine, and said the time was fast approaching when the turbine would be universal in all cases where speed was an essential, both in the Navy and merchant shipping.

At this stage the CHAIRMAN announced that he was bound to leave by the mail train for London to attend a meeting in the morning, and that Mr. M. W. Aisbitt would take his place.

Mr. JOHN CHELLEW moved a hearty vote of thanks to the Chairman for his presence, and Lord DUNRAVEN, in response, said he considered it a great

privilege to have been invited to preside over so large and important a gathering.

Mr. M. W. AISBITT stated that as Sir Edward Reed was suffering from a very severe cold, that gentleman would only briefly address the meeting, and then Mr. R. O. Sanderson would take his place as the proposer of the toast of "Docks and Railways of the Bristol Channel."

Sir EDWARD REED, M.P., on rising, was accorded a hearty reception. He said that he had attempted a few times to address the gentlemen sitting about him, but found his voice absolutely disappeared. He expressed his regret that he could not allow himself the pleasure of proposing the toast.

Mr. R. O. SANDERSON said he could not express how great an advantage had been derived by the ships of the country and of the world by the enterprise of the dock companies of the Bristol Channel. The credit should be attributed to such people as the Marquis of Bute, Lord Tredegar, Sir George Elliott, and Mr. David Davies. At the same time, they should not forget the great help Sir Edward Reed had rendered in furthering their enterprises, especially in the case of Cardiff. The docks were dependent upon the railways for their prosperity, and the prosperity of the district depended wholly upon the working of the two. They should watch very seriously at the present moment the alarmists who sought to interfere with the exportation of their coal, especially Professor Boyd Dawkins. In view of the rapid advances being made in electricity, water-power and oil fuel, it was absolutely necessary for them to find markets for their coal whilst they had the opportunity. He coupled with the toast the names of Mr. Richard Evans, Mr. T. Hurry Riches, and Mr. F. P. Robjent.

Mr. RICHARD EVANS, of the Barry Railway Company, said he was much obliged for what Mr. Sander-

son had said. They, as dock and railway companies, felt that they had an interest in the Institute and its work, and he wished them every success.

Mr. T. HURRY RICHES (Taff Vale Railway Company) said he sincerely regretted the absence through illness of Mr. Beasley, his general manager. He could say, on behalf of his own company and of every company in the district, that as the engineers went on improving their ships they would find that the dock companies of the country, especially of the Bristol Channel, would go on making progress in the same measure.

Mr. F. P. ROBJENT (President of the Newport Chamber of Commerce), referring to the remarks made by Mr. Evans in regard to the Barry company, said they in Newport recognised the very modest way in which his company had carried out their proposals. The modest proposal now before Parliament was to get into a district that was served naturally by Newport, and he need hardly say that Newport people intended to stand up for their rights.

Mr. WM. GRAHAM gave "Kindred Institutions" in a neatly phrased speech, and

Mr. ARTHUR ELLIS, borough electrical engineer, responded. He had the honour of serving his apprenticeship with the Hon. C. A. Parsons, President of their parent society, and he could honestly say that if credit was due to anyone for improving marine engineering it was due to the Hon. C. A. Parsons. He had spent not only his time, but enormous sums of money, for during the four years he remained at the works he had never known two machines of the same type turned out.

An excellent musical programme was carried out by Mr. Paul Degree's orchestra.