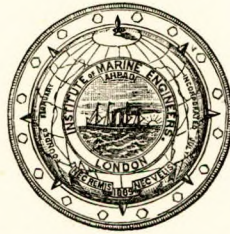


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INSTITUTE OF MARINE ENGINEERS
INCORPORATED.

SESSION,



1894-5.

President—SIR THOS. SUTHERLAND, M.P.

FIFTY-SECOND PAPER

(OF TRANSACTIONS).

“DAMAGE SURVEYS,”

BY

Mr. W. M. AISBITT

(MEMBER).

READ AT

GRESHAM COLLEGE, BASINGHALL STREET, E.C.,

On Saturday, February 24th, 1894,

AND AT THE

UNIVERSITY COLLEGE, CARDIFF.

On Tuesday, March 27th, 1894.

P R E F A C E .

58, ROMFORD ROAD,

STRATFORD,

February 24th, 1894.

A Meeting of the INSTITUTE OF MARINE ENGINEERS was held this evening at Gresham College, Basinghall Street, E.C., presided over by W. H. WHITE, Esq., C.B., LL.D. (President 1893-4) when a Paper on "Damage Surveys" was read by Mr. W. M. AISBITT (Member).

The discussion on the subject matter of the Paper was adjourned, but in the course of the brief discussion which ensued after the Paper was read, a request was conveyed to Mr. AISBITT,—which he kindly agreed to accede to,—that he would write a further and more detailed Paper on the subject at some future time.

JAS. ADAMSON,

Honorary Secretary.

INSTITUTE OF MARINE ENGINEERS
INCORPORATED.

SESSION,



1894-5.

“DAMAGE SURVEYS”

BY

M R. W. M. AISBITT

(MEMBER).

READ AT
GRESHAM COLLEGE, BASINGHALL STREET, E.C.,
On SATURDAY, FEBRUARY 24th, 1894.

DISCUSSION ADJOURNED TO 58, ROMFORD ROAD,
STRATFORD,

READ AT
THE UNIVERSITY COLLEGE, CARDIFF,
TUESDAY, MARCH 27th, 1894.

REGARDING the importance of the subject which I have been desired to bring before you at this meeting, I think, when we consider the vast amount of steam and sailing tonnage now afloat, combined with the complicated machinery contained therein, including, as it

does, all vessels from an Atlantic liner to a steam tug, from a triple compound engine to a simple donkey pump, and from refrigerating and electric plant to a patent feed heater, any of which may happen to break down at any moment through sea perils or otherwise, it will be generally admitted that the subject is sufficiently important to be introduced to the Institute on this occasion.

Before dealing with the present existing method, I should like to refer to the procedure at damage surveys, as carried out early in the present century, before the era of iron steam ships.

Doubtless, many of you will be aware that all the Mutual Club policies, and many of Lloyds', are dated from the 20th of February in each year, the reason for which being that this date was considered the commencement of the Baltic season for north country vessels, which extended until October 21st of the same year. Hence, possibly, the reason for north countrymen about that time considering that the four quarters of the globe consisted of Russia, Prussia, Memel and Shields. Before the 20th of February of each year, it was usual for a committee of four or five to inspect or survey each vessel insured in their particular club, in order to see if she was fit for the intended voyage; and although the matters dealt with by those gentlemen were not so complicated as those with which we have at present to deal, I think we could learn much from them as to thoroughness of the examination, and complete practical knowledge of the subject dealt with.

At the present time, owing to the enormous increase in number, capacity, and power, of iron steam ships, it has become almost an impossibility for an owner to devote special attention to the condition or repairs of the steamers under his management. He has, therefore, to delegate such duties to a marine superintendent, specially trained for the work, who actually, and in fact, must act for, and represent, the owner, in respect

to any repairs which may be required. It is, therefore, very necessary, in considering the proper procedure in connection with damage surveys, to clearly understand the position and status of each interest represented:—

Firstly, as to that of the marine superintendent.

Secondly, as to that of the surveyor for Lloyd's or other registry in which the vessel may be classed.

Thirdly, as to that of the surveyor for the underwriters with whom the vessel has been insured.

In all Lloyds' and other policies of marine insurance, the fundamental principle in case of accident or damage, is "for the owner to act as if uninsured;" therefore, upon the owner, or his representative, primarily lies the onus of repairing the vessel as efficiently and economically as possible under the circumstances; and, therefore, upon the marine superintendent rests the duty and right of stating what he intends to do. As the vessel for the time being (if the damage is extensive) is practically unclassed, the registry surveyor has the power of either approving or suggesting alterations concerning the mode of repairs, so as to restore the vessel to her former class, according to the rules of his registry.

The duty of the underwriter's surveyor is, to see that the work done is actually the result of the accident as stated in the log books, that the repairs are economically carried out, and, together with the marine superintendent, to check the accounts when rendered.

We have thus a trio, the first of whom, as the owner's representative, is most responsible, both as to the mode of the repairs and also as to the condition of the vessel before and after the repairs are completed; the second named is responsible for the restoration of

the vessel's class, according to the rules of his society; and the third is held responsible as to the amount and cost of the repairs, so far as the immediate accident is concerned; and upon the harmonious working of these three a good deal depends.

In proceeding with the damage survey, it is usual, and, I think, rightly so, first of all to examine the mate's and engineer's log books, and to make abstracts therefrom as to the cause and particulars of the accident; and as these log books contain really the only authoritative statement obtainable, and are, I think, much preferable to any protest, usually made some time afterwards, I would suggest that special stress be laid by the superintendent upon a proper mode of keeping them, both as regards the mate's and engineer's logs, and that for evidence, such should be treated as legal documents, and signed by the captain, if correct, on the completion of each voyage.

Having, during the last fourteen years, perused several hundreds of log books, I have been struck by the diversity of style adopted in recording accidents, and I must say, that as a rule, the engineer's log is better kept than the deck log; but even in the former, it is not always necessary, I think, to inform the reader that "the stokers are employed filling the oil cans and cleaning out the stokehold," while omitting all mention of the state of the crank shafts, machinery, &c., after the whole has been sanded up for, say, ten or twelve days. I would suggest that whenever an opportunity occurs of opening out and examining the machinery, the condition of the same, as found, should be clearly stated, and thus, possibly, save much trouble and annoyance in cases where the vessel is insured in two policies on the same voyage.

In the case of deck logs, I think it would be an improvement, perhaps, to have a column clearly indicating the actual force of the wind, and condition of the barometer, in addition to the frequent allusions to

“mountainous seas flooding the decks, and vessel twisting and straining heavily.” Speaking of logs, I remember one of the most interesting I ever read, was as follows:—

- “Dec. 5th. J. Brown, the cook, absent.
,, 6th. J. Brown still absent.
,, 7th. J. Brown returned on board drunk.
,, 8th. That * * * * * J. Brown still drunk.
We have not had a bit of food
cooked for four days.”

In the above, evidently, nature at length asserted herself; and, it is needless to say, the Board of Trade did not see that log.

As regards the nature of repairs requisite, in all cases of doubt as to the actual cause of damage found, it is usual to give the owner, and, I think, rightly so, the benefit of the doubt, as by so doing both parties benefit by making the vessel seaworthy; but in some instances it is necessary either to repair the vessel by scarphing the frames, or to repair the plating or the machinery in a mode that was not original; or by adding some doubling plate or other compensation for damage received. As regards the first mode of repairs, where it is unavoidable, I think it should be done as neatly as possible, not to depreciate the value of the vessel or machinery, if it can be helped. I have seen many vessels plastered up in the bows and holds with double reverse bars and face plates, which I, if an owner, should never have allowed. As regards the second alternative of doubling as compensation, I think too much stress is laid upon the value of doubling side or deck plates in case of straining, as it must be remembered that so doing is simply hanging so many tons of iron on to, say, an inside strake, which, not being original or connected to the plates above and below, can add really

very little strength to the vessel, while at the same time it may be penalizing the owner with so many tons less of cargo. It is better, I think, to go to the root of the evil by removing the old plates and replacing them with thicker ones, if necessary.

Finally, I have only to reiterate my desire—that, as concerns damage surveys, marine superintendents (of whom marine engineers are the most numerous) will carefully think of the prior and responsible position which they occupy,—and which I trust they always will occupy,—and that these few crude remarks may be of some assistance in the matter of indicating the direction of improvements.



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INSTITUTE OF MARINE ENGINEERS
INCORPORATED.

SESSION



1894-5.

President—SIR THOS. SUTHERLAND, K.C.M.G., M.P.

Volume VI.

DISCUSSION
ON THE
FIFTY-SECOND PAPER
(OF TRANSACTIONS)

“DAMAGE SURVEYS”

BY

Mr. W. M. AISBITT

(MEMBER).

READ AT GRESHAM COLLEGE, BASINGHALL STREET, E.C.

ON SATURDAY, FEBRUARY 24th, 1894.

READ AT THE UNIVERSITY COLLEGE, CARDIFF,

ON TUESDAY, APRIL 3rd, 1894.

P R E F A C E .

58, ROMFORD ROAD,

STRATFORD,

October 31st, 1894.

The Discussion on the Paper,entitled " Damage Surveys," read by Mr. Aisbitt,at Gresham College,E.C., on Saturday Evening, February 24th, was continued at the University College, Cardiff, on Tuesday, April 3rd, 1894, when the meeting was presided over by Mr. David Gibson (Vice-President of the Bristol Channel Centre), in the absence of Professor Elliot.

In the following pages will be found the remarks of those who took part in the discussion at Cardiff, or who have contributed remarks by correspondence.

JAS. ADAMSON,

Honorary Secretary.

INSTITUTE OF MARINE ENGINEERS
INCORPORATED.

SESSION



1894-5.

DISCUSSION
ON
"DAMAGE SURVEYS,"

READ AT

GRESHAM COLLEGE, BASINGHALL STREET, E.C.,

ON SATURDAY, FEBRUARY 24th, 1894.

READ AT THE UNIVERSITY COLLEGE, CARDIFF,

ON TUESDAY, APRIL 3rd, 1894.

CHAIRMAN—

MR. DAVID GIBSON, *Vice-President.*

In opening our meeting this evening, I am sorry that I have to express regret at the absence of our respected president, Professor Elliott, the more so as I know he has a keen interest in Mr. Aisbitt's paper. Seeing the large number of representative gentlemen

present whose business it is to deal with the subject of the evening, it requires no words of mine to impress upon you the importance of the question of Damage Surveys, for you know full well the tremendous amount of money which they involve. This paper was well received in London when it was read at Gresham College, with Dr. White presiding, who criticized the paper favourably. Mr. Aisbitt's experience is unique on this question, and I know no one more qualified to deal with the subject. In opening the discussion, if brevity is meritorious in dealing with the subject, Mr. Aisbitt certainly had gained a very important point, but from what I gathered from his opening remarks, it was not his intention that the paper should be so short had more time been given to prepare it. The paper lays down several important points, and coming from Mr. Aisbitt it gave them great significance. He had said that the owner, or the owner through his representative, was responsible for the proper repair of his ship, very properly too, for who is affected more than the owner? and he (the owner) has a perfect right that his ship should be repaired to his liking, and that he should have the repairs effected to his entire satisfaction, of course complying with the requirements of the classification. It is very often thought, I believe, that if the classification surveyor sanctioned a mode of repair that the owner is bound to accept it as well, but this is not so. Coming to the log books, this is a very important item, as the whole damage hinges on the log entries, and those of us who have this business to deal with know how very imperfect at times the entries are for the purpose the owner requires, and I have no doubt that in many cases the shipowners have to suffer in consequence of the insufficient knowledge of the officer or engineer in keeping his log. The Board of Trade, I think, in the examination of officers and engineers, instead of imposing a very stiff examination on subjects which in their ordinary duties they do not use, it would be much more to the advantage of the officer and engineer, and those who employed them, if they had to pass an examination on keeping their logs efficiently,

at the same time the superintendent should at intervals see that the officer and engineer keep their logs as they should be kept. The meeting is now open for discussion.

MR. A. K. HAMILTON : I have, in the first place to thank the Council of the Institute for the privilege afforded me of hearing Mr. Aisbitt read his paper. I have listened with considerable interest, and I feel that we visitors and the Members of the Institute are greatly indebted to him for the pains and trouble he has taken for our edification.

There is one thing I would like to ask Mr. Aisbitt in view of his assertion "that he has seen vessels plastered up in the bows and holds with double reverse frames and face plates, which he, if an owner, would never allow"—my question is what does Mr. Aisbitt propose as a substitute for this method of repair ?

I am well aware there are other means of making a repair to broken frames, such as bosom pieces and renewal of frames, and as we have to take fractures as we find them, it is not at all likely that an owner would lay his vessel up for a lengthened period to renew the frames *in toto*, which would necessitate removal of both shell and stringer plates, and placing the vessel in graving dock, thus creating a very large expense for a comparatively small damage.

Of course, no surveyor has a right to disfigure a vessel with an apparent patchy repair, but when an owner does not look upon such a repair as a blemish, I hold that the double reverse frame and face plate is the most efficient and economical repair (for all interested) for maintaining the 'thwartship strength of frames, and when it is done in a neat manner it does not look objectionable.

I certainly take exception to the statement in Mr. Aisbitt's paper when he says "that the surveyors of the

present day could learn much from the surveyors of one hundred years ago as to thoroughness of their survey." Now, speaking from a very wide experience, I say that examinations of vessels are much more rigid and thorough now than ever they were.

Again thanking Mr. Aisbitt and the Institute for the invitation to be present, I will close.

Mr. JOHN MCCALLUM (Member): Mr. Aisbitt's paper is of great interest, and he has defined pretty clearly the positions of superintendent engineer, registry surveyor and underwriter's surveyor on a damage survey; but what would be the best position for the superintending engineer to take up if the owner had taken up some of the risk on the vessel himself?

It has been stated that the fitting of doubling plates does not sufficiently compensate for the evils of straining, and its benefits are doubted; but, without going into a great expense, in an old structure it seems to be the best style of fitting.

The position of a ship repairer, in my opinion, on a damage survey is that he has no voice in the matter as to what should be done to effect a reliable and economical repair. He has only to complete the repair in a workmanlike manner, following the suggestions and recommendations of the surveyor.

It is to be regretted that Mr Aisbitt, who has had considerable experience in this class of work, did not extend his paper, and give us his opinions on particular and general average surveys; but it is to be hoped that at some future time he will see his way to do so.

Captain F. MURRELL: I am here as an invited guest by my friend, your worthy Secretary, Mr. Sloggett, and should like to make a few observations upon Mr. Aisbitt's able and interesting paper.

There are a few remarks in reference to the surveyors of the present day and those who in the good old times surveyed the vessels insured in the north of England clubs. My experience is, that when commanding sailing vessels 35 years ago the surveyors at that time were not to be placed on the same footing as the men who hold these responsible positions at the present day. I remember less than 20 years ago a surveyor reporting on a fractured stern-frame of a steamer, and all the report contained was "stern-frame fractured—to be taken out, repaired, and put back." I am of opinion that if any of the gentlemen now present who represent underwriters or owners were to send in a survey report in this way without any further detail as to the work which would be entailed to execute the removing, repairing and re-fitting of the frame, it would be returned to them by the next post to be amended. Again, those in the olden time who surveyed were members of the same mutual club, although possibly on the committee; the vessels were subject to survey every twelve months, and the owners used to survey each other's ships. There was no officially appointed surveyor to represent these associations as at the present time, steamships having altered all former arrangements as to the manner of insuring and surveying. I believe that surveyors who have these responsible positions (representing the insurance associations and owners) are, with the ideas imparted to them from the men of old, and that which has been gained by study and practical knowledge, far ahead of those who endeavoured to perform the same kind of work 50 or 60 years ago.

I agree with Mr. Hamilton, Lloyd's surveyor, in his remarks in reference to repairing broken frames of iron vessels, that a double reverse bar and face-plate is a good and inexpensive way to get over the difficulty of removing the frame or of cutting the same out for a long shift, particularly where the stringer plates in the lower hold and the 'tween decks are in the way of the damage, because then it would be a very expensive

procedure for the underwriters to pay for renewing the frames, and I question if the vessel would be any stronger for all the cost which would be entailed for the execution of such a work. I agree with Mr. Aisbitt in his remarks about the log books, and think there should be more attention given by the Board of Trade examiners when young officers are passing the examinations for their second and chief certificates, as to the manner in which the log books of the deck and engine departments should be kept, and the various particulars which it is really necessary should be entered in the same.

I am pleased that I have the honour of being present to hear the discussion on such an interesting subject which is so applicable to a port like this, where so many repairs to steamers and sailing vessels are continually being executed.

Mr. T. WIDDAS (Bureau Veritas Surveyor): It is with considerable diffidence that I engage, as a visitor in the discussion on the subject under consideration, but as my views are to a large extent in accord with those expressed by the author, I cannot refrain from responding to your invitation.

To begin with, I am more than pleased to learn Mr. Aisbitt's classification of the three interests represented respectively by the owners' superintendent, classification surveyor, and underwriters' surveyor in damage surveys. One of the first difficulties experienced in such cases is not infrequently to settle upon the relative duties, privileges, or positions of the interested parties.

Here I should like to express the hope that Mr. Aisbitt's paper will be widely circulated amongst his confreres, as I have known a few underwriters' surveyors who would take charge of the whole show and tell all and sundry what they would allow an owner to do with his own property. Now in all cases where several interests are concerned and represented by as many individuals, some one or the other must take the lead, and in the case

in question I think it stands thus: The Marine Superintendent and Classification Surveyor should be bracketed as it were, the one will likely claim as much as possible, the other will or should (in all cases affecting the seaworthiness and ability to carry her cargo in safety) indicate what is necessary to so fit the vessel, her machinery or equipments to be reinstated in her class. The question as to whether the property is insured or not and who has to pay does not concern the Classification Surveyor. He being the middle man will soon find out all about that. Now, as regards the position of Underwriters Surveyor, it—in my humble opinion, and I advance it with all deference—is one of observation up to this point: If he objects to any of the recommendations he should at once give expression to such, and having done so, the matter rests there until such time as the bills come in when he must fight it out with the owner. Of course there are many items in a claim in which the classification is not affected when the first and third individuals will be bracketed.

Before entering on another phase of the subject, I should like to be a little nearer the door, especially so as there are so many repairers present, however I will qualify my remarks on this head by excepting present company. Occasionally—I won't say frequently—tradespeople or their foremen on the look out for a job and in an excess of zeal will venture remarks as to how this and the other mishap happened, and if the design had been so and so it would have been all right, and to clinch the argument, want to make alterations and additions, which, if admitted, would complicate the business very much.

Having said this much, I cannot pass without mentioning one of the shortcomings—which I feel free to do, being one myself—of some classification surveyors, viz.: giving orders to tradespeople as to what is to be done. I take it his duty is to recommend, the privilege of the owner is to give orders. Failing the adoption of reasonable and proper requests the surveyor's duty is a simple one.

In one paragraph, Mr. Aisbitt says "I am pleased to see upon the marine superintendent rests the *duty and right* of stating what he intends to do (the italics are mine) I quite agree with this very definite opinion.

As regards the method of repairs, it very often happens it is not what one would like to do, but what is practicable and possible under the circumstances. In such cases the repair effected must be looked upon as a compromise, and different methods of dealing with cases will always exist. One very great difficulty to my mind is to estimate and compensate for general straining of a vessel. In cases of extensive local damage, breakage, and fracture, large renewals must follow. The damage is evident, but not so in the former case.

One of the methods of compensating for general strain, viz. : by doublings, is taken exception to by Mr. Aisbitt. The advent of lapped butts in shell plating, stringers, and decks, will, to a large extent, prevent the adoption of the previous system of doublings.

As regards the expression of wind forces and state of weather being expressed by numerical examples, that, I believe, is done in many cases, being the rule, I believe, in German vessels.

Mr. T. W. WAILES (Member) I have listened to the reading of the paper with great interest and pleasure; but not having had time to consider it—in fact I have not seen the paper until this evening—I am hardly prepared to discuss the matter. I am sorry Mr. Aisbitt, with his great experience and knowledge, has not dealt with the subject in more detail. In reply to Mr. Widdas's remarks about ship repairers stepping in to advise surveyors, so far as I know, I do not consider that is so—ship repairers, as a rule, are very reluctant to interfere with the surveyors-- but I may say they frequently have specifications and drawings laid before them for tendering, and occasionally the surveyors, especially in large and complicated jobs, are glad to have

the opinion of repairers on these, as at the present time ship repairers have to be well up in their work, and whether it is ship or engine work that has to be dealt with, the repairer ought to be a thorough shipbuilder and engineer, and master of his business in every detail, and well up in the best methods of effecting repairs efficiently and economically. This being so, a repairer's experience is often a valuable one, and if any suggestions are made to surveyors and superintendents, it is at their own request, and not due to any spirit of interference on the part of the repairer.

Mr. THOS. A. REED (Member): Having listened with much interest to the discussion of Mr. Aisbitt's valuable paper, by members preceding me, I find there is little left to say, but one or two remarks I should like to make. A good deal has been said about the mode of repairing damage. Now I can endorse the opinion of Mr. Widdas, "that it was not always a question of how one would like to effect the repairs, but how it was possible to do them in the time usually allowed." This I can fully endorse, for, as a rule, when a vessel arrives in this district, the owners are in a desperate hurry to get her away again to save charters, &c., so that it becomes a question of doing the repairs in the most efficient manner in the least possible time, consistent with a minimum of cost, and I might remark in passing that the Bristol Channel repairers more than hold their own in despatch compared with any other district, and the cost of repairs should also bear favourable comparison with similar firms in the North-East Coast or elsewhere, who have not a shipbuilding yard at their back to draw constant hands from. In the case of firms who build as well as repair vessels there might be a little less cost, but Cardiff is purely and simply a repairing port, with no shipbuilding worth speaking of.

With regard to fully entering all and every accident in the log book, there is one matter that might, no doubt, in many cases affect the deck log entries. I

refer to the notice on the backs of most mutual insurance club rules, viz., "That captains will receive a premium of twenty guineas if there is no claim for damage on their vessel (machinery excepted) for two consecutive years." Now, although this is on the face of it to induce masters to be careful, it has also, I think, a tendency to tempt them to keep back the entering in the mate's log of many accidents that occur, and as it not infrequently happens that when a vessel has been placed in dry dock for painting only, several plates are found indented, necessitating their removal, and also show very distinct signs of the vessel having touched the ground; but on referring to the log no mention of such accident is found, and the usual reply is that she did touch somewhere, but it was not worth mentioning.

With regard to Mr. Wailes's remark, that after all the shipbuilder was the man that owners came to for advice, information, plans, &c., for new vessels, repairs to old, and the like; I might say that the fact of their giving all this information gratuitously, was probably the secret of the matter, and as this information often requires a considerable amount of labour to prepare, I fail to see why it should not be charged for, as it certainly takes away a large amount of a surveyor's business.

When a man wants a house well built he usually goes to a good architect to get out the necessary plans, quantities, &c., who gets in tenders, and also sees that the work is properly carried out; but it seems to be a growing practice amongst shipowners to simply take the builder's own specification, and a register society's classification, forgetting the hundred and one things that go to make a good and economical working vessel that are not absolutely necessary so far as strength and seaworthiness is concerned, which is practically all that a classification surveyor sees to; and it seems to be the practice now, owing to great competition, to cut down and do without everything but what is absolutely

necessary to meet the minimum requirements for classification.

Now a marine surveyor, whether as owners' superintendent, classification or underwriters' surveyor, should be an all-round man, who is competent to undertake the building of a vessel from the first stages of construction to the completion, and afterwards the efficient maintenance, upkeep, and repair of both hull, machinery and equipment, and who can design, scheme and expeditiously carry out work in the most efficient manner, not forgetting the important item of cost, for the latter is perhaps after all where most trouble comes in.

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* Mr. S. C. SAGE (Member of Council) : The question of Damage Surveys is, I consider, a very important one to this Institute, many of its members being consulting engineers and marine surveyors, and I confess that I was very much disappointed at the brevity of the paper when I heard it read at Gresham College.

The author of the paper is, I should say, if not the greatest, then the next greatest writer of the documents which give the title to his paper, and could, if he chose, produce a very long and most interesting and valuable paper upon this subject.

I must say that, having made a few damage surveys in my time, I was looking forward to Mr. Aisbitt's paper with great eagerness, in the expectation of obtaining many valuable wrinkles from such a master of the art. Without in any way criticising the paper of Mr. Aisbitt I venture to make a few remarks of my own upon the subject matter of its title.

The holding of damage surveys is a very important process, and one in which ship owners and underwriters

* Contributed by correspondence.

In the present time the surveyors to Lloyd's Register are principally employed by owners to make the damage surveys when the cases of marine damage occur; and they are, I believe, generally looked upon by underwriters as being independent and disinterested, but both owners and underwriters have the right, and frequently exercise it, of calling in any other surveyor that they choose.

In conclusion, I may say that hundreds of thousands of pounds are annually spent, for which the damage survey report is very frequently the only specification, and it will, therefore, be seen that the subject matter of Mr. Aisbitt's paper is of immense importance, and could be enlarged upon to a great extent in some future paper from him.

MR. AISBITT'S REPLY
TO
DISCUSSION
ON
"DAMAGE SURVEYS."

READ AT GRESHAM COLLEGE, LONDON, E.C.

FEBRUARY 24TH, 1894

W. H. WHITE, Esq., C.B., Chairman.

READ AT CARDIFF, APRIL 3RD, 1894.

MR. DAVID GIBSON, Chairman.

Mr. Chairman, I must first thank yourself and other gentlemen who have discussed the paper I read upon "Damage Surveys," for the kind manner in which you have all allowed for the deficiencies thereof. You

have been kind enough to say that, if "brevity is the soul of wit," I deserve thanks; but I can assure you that I am glad that in this instance you and others appear to think my paper on such an interesting subject is somewhat too short, for this reason:—My opinion is, that in reading a paper it should not be the aim of the author to occupy too much of his hearers' time, but rather to indicate the points which strike him as worthy of discussion, so that the ideas of all concerned may be obtained, which procedure I am glad to think has been successful on this occasion. I fully agree with you as to the position of the owners and classification surveyors, as also as to the desirability of the Board of Trade examining engineers and officers as to the proper mode of keeping their log books.

Mr. Hamilton refers to my assertion of vessels being plastered up in bows and holds with double reverse frames and face plates, and asks, "What do I propose as a substitute?" Perhaps in reading my paper I did not fully explain the ideas I have on the matter, which are as follows:—

Firstly—If the frames are to be cut in long and short lengths, giving a shift of butts in the old-fashioned manner, then I think the butts should be covered by neatly fitted bosom pieces, but, as a practical shipbuilder and engineer, I should prefer to see them cut in a straight line, at, say, the lower or orlop stringer plate, and connected thereto by a bracket plate corresponding to the beam knee plate upon which they rest. Although this may seem a revolutionary mode of repair, it must be remembered that it is already done in the case of tankside plates and main decks of oil boats, and so long as the connection is efficient I think it is a better, simpler and more efficient mode of repair than the old-fashioned wood ship idea of third and fourth futtocks. Furthermore, Mr. Hamilton says in order to maintain the athwartship strength of the frames, that the double reverse frame and face plate is the most efficient to an economical repair. Now I contend that the double

reverse bar with face plate is far beyond the original strength of the frame, and if it is the proper mode of repair, why was the ship not originally built with this section? Furthermore, where two reverse bars and face plate end on the stringer plate (as end they must), a weakness will be created through the suddenly diminished sectional area.

Mr. McCallum asks what would be the position of the superintendent engineer if the owner had taken some risk on himself; this is not an infrequent occurrence, and he simply becomes one of the minor insurers, leaving the matter in the hands of the underwriters' surveyor, who represents the majority. I endorse Mr. McCallum's opinion as to the position of the repairer.

Captain Murrell refers to my remarks respecting surveyors of the past; but while agreeing with him as to their position, and also as to the effect of the progress of the present *modus operandi*, I referred more especially as to the work they had to do with the means at hand in their time.

Mr. Widdas has, I think, very clearly indicated the position of all interests concerned, especially so that of underwriters' surveyors, as being one of observation up to a certain point. I further agree with him in his objection to either classification or underwriters' surveyors giving orders to tradespeople as to what should be done.

Mr. Reed has referred to the difficulty of getting repairs carried out as quickly as possible, consistent with a minimum of cost, this I think could easily be advanced if superintendents in general would take the responsibility upon themselves, irrespective of classification or underwriters' surveyors.

Mr. Sage states that in his opinion an engineer with some experience in a shipbuilding yard is the most competent surveyor, to this I am sorry I cannot agree, my experience being that there are few engineers

who have a thorough practical knowledge of ship-building work. Furthermore, it must be remembered that three-fourths of the damage repairs are for hull and not for engines, and that for an engineer to be able to check the cost of the hull work he must have some considerable experience of the hull building and the hull repairs, and that the very fact that he is a trained engineer denotes that he must have occupied a large portion of his time in connection with machinery at sea and on shore. Mr. Sage further states that it is necessary for a surveyor to have a knowledge of marine insurance, and the rights and duties of the various parties concerned in the adventure covered by the policies.

In my opinion an experienced surveyor should be an all-round man, not necessarily an engineer, a ship-builder, or a master mariner, but with some considerable knowledge, firstly, in constructing and repairing iron vessels; secondly, in designing or having charge of marine engines; thirdly, some marine knowledge of working vessels at sea. Furthermore, it is necessary, that (if he is to succeed) he should devote his time entirely to his profession, and be able to read up and understand some of the fundamental laws on marine insurance.

In conclusion, Mr. Chairman and gentlemen, I have only to thank you again for the kind reception and criticism you have given to my paper, which I trust may be of some service to us all in the future.



P R E F A C E .

58, ROMFORD ROAD,

STRATFORD,

June 13th, 1894.

The Fourth Annual Dinner of the Institute of Marine Engineers was held in the Holborn Restaurant this evening, presided over by the President, Sir Thos. Sutherland, M.P.

The reception was given in the Ante-Room, and shortly after 6.30 the President, Guests and Members proceeded to the Venetian Chamber, where the repast was served.

The arrangements in connection with the Dinner were entrusted to the Recreation Committee, with Mr. Jas. G. Latta as Convener.

A detailed report of the proceedings will be found in the following pages.

JAS. ADAMSON,

Honorary Secretary.

