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# INSTITUTE OF MARINE ENGINEERS INCORPORATED.

SESSION



1897-8.

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

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Volume IX.

(OF TRANSACTIONS)

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DISCUSSION

ON

## THE ENGINES & BOILERS (Chargemen) BILL.

HELD ON

MONDAY, MARCH 8TH, 1897,

AT

58, ROMFORD ROAD, STRATFORD, E.

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CHAIRMAN :

MR. S. C. SAGE (*Member of Council*).



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58, ROMFORD ROAD,

STRATFORD.

*Monday, March 8th, 1897.*

This evening a meeting of the Institute of Marine Engineers was held here, when the subject of discussion was the "Steam Engines and Boilers (Chargemen) Bill." Mr. S. C. Sage (Member of Council) presided, and the Honorary Secretary introduced the subject by calling attention to the several points which had already been remarked upon at the meeting of council, attention having been directed to the Bill by Mr. J. Fortescue Flannery, M.P., so that the views of the members might be expressed and utilised for the improvement of the Bill in committee. The first point specially commented upon was the expression "nominal horse-power," which might be characterised as an anomaly more than ready to be relegated to the limbo of a forgotten past, or if the expression should be retained, a definite meaning should be attached to it; Lloyd's had found it necessary to attach a definite formula on the subject, and it was no less necessary that the Board of Trade should do so, as meantime nominal horse-power was merely a nominal term. The exclusions from the Bill were too many and too great.



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The exclusion of agricultural machinery, traction engines and steam rollers, as well as other machinery, from the sphere of the Bill did not appear consistent with what was probably the intention of the promoters, *i.e.*, the interests of public safety. The ambiguity as to steamship machinery was commented upon, as the omission of a few words from the clause bearing on this rendered the meaning very elastic. The mere fact of a boiler having a Board of Trade certificate, in the sense that it was built under Board of Trade inspection, or even inspected once a year, by no means ensured the safety of the boiler when at work in charge of an attendant who just knew one end of a shovel from the other. The Board of Trade reports showed where and under what circumstances most of the boiler explosions take place, and it would be found that many, if not most, of those occurred through the ignorance of the men in immediate charge. A case was cited in which a crane boiler burst in the furnace, and the boiler rose like a rocket and fell into the river. Being fished out and the plates gauged, it was found good for 100 lbs. working pressure, whereas the attendant, who, with several others, was injured, stated that he saw only 40 lbs. on the gauge just previous to the accident. The question was whether the pressure had been 40 lbs. or more, due to the jamming of the safety-valve, which could not be found. The absence of any indication as to the qualifications considered necessary for a chargeman's certificate of the first grade, and the vagueness as to the testimonials necessary for the second grade were dwelt upon, and it was considered that some definite stipulation should be made to show what class of man is really necessary for these several certificates. It might be found that the better class of men at present employed as winchmen, donkeymen, and greasers or firemen in the mercantile marine would be drawn upon largely by the application of the Bill, and might lead to a greater scarcity of such. On the other hand, the men who came forward for certificates might have put before them inducements of an extra certificate

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and fee being given on qualifying by a certain time at sea as firemen, to have their names enrolled on the R.N.R. list; as evidence had been brought forward to show that it would be as well to strengthen and increase the reserve of efficient men as well as officers — executive and engineer. The clause referring to several engines and boilers being supervised by one man, was looked upon as very indefinite, and it was not made clear whether small launches, tugs, or other vessels plying within docks or inboard channels were to be included. The clause placing chief and second engineer's certificates on a par with the certificates to be obtained under this Act was looked upon as either indicating very high qualifications for the new certificates of the Bill or a mistaken view of the present certificates (engineers'). If the recommendation made to the Board of Trade about three years ago were adopted, and which was so widely approved of, to have a third-class engineer's certificate, it would be more like the average grade required for the administration of the Act. There were several other points in the clauses referred to as well as in other parts of the Bill which would be worth discussing, and no doubt members would take an opportunity of giving their opinions upon them. From the indefinite article being used in referring to "a Secretary of State" as well as the final clause of the Bill, it would appear as if a special Secretary of State were in view by the promoters of the Bill, in which case it might appear as if the Bill created the billet.

The CHAIRMAN: With reference to the Bill now before the Houses of Parliament, proposing to make it compulsory that, after the first day of January, 1898, all persons having charge of engines or boilers of above five nominal horse-power must be certificated, I think that it is a step in the right direction, but that the Bill, as set out in the Parliamentary paper now before us for discussion, will require some modification before the advantages which are desired by the promoters can be obtained. These modifications are, in my opinion,



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principally required in paragraph 4, on page 1, where it is said:—

“This Act does not apply to any boiler or engine used exclusively for domestic, agricultural, or farming purposes, or to any boiler or engine used in the service of Her Majesty, or to any boiler or engine used by a railway company, or to any boiler or engine used on board a steam ship having a certificate from the Board of Trade, or to any road traction engine, or steam roller.”

I propose that the above paragraph or clause should read thus, viz.:—

“This Act does not apply to any boiler or engine used exclusively for domestic purposes, nor to any boiler or engine used in the service of Her Majesty, nor to any locomotive engine or boiler used by a railway company, nor to any boiler or engine used on board a steamship having a *Passenger* certificate from the Board of Trade.”

You will see that some words have been omitted, and others interposed, at various parts of the paragraph or clause, and I submit that the alterations here proposed will allow of the maximum protection being afforded to the general public as well as to the multitudes of workpeople who are daily engaged in close proximity to vessels which unskillfully, or in any way inefficiently, handled are sources of grave danger.

The exemption from the operations of this Act of boilers and engines used for agricultural and farming purposes, as well as traction engines and steam rollers, is, in my opinion, wrong, as all these kinds of machines are used either very close to, or actually upon, public footpaths and roads where the general public, including children, are frequently passing, and in the country I have frequently seen, where portable engines

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and boilers are being used for threshing or other purposes, a crowd of people, including children of tender age, surrounding these, when the consequences of an explosion would have been most disastrous.

The locomotive engines and boilers belonging to railway companies may, I think, be very well exempted from the operations of this Act, as they are generally very particular as to the training of their engine-drivers and firemen; but there are, no doubt, many other engines and boilers used by these same companies, an explosion in any of which might cause great loss of life, concerning the ability of the attendants on which they are, perhaps, not quite so careful as they are in the case of their locomotives. The wording of the exemption of the boilers and engines on board a vessel having a certificate from the Board of Trade is, to my mind, vague, and is certainly misleading. Locomotive engines and boilers belonging to contractors, coal mines, quarries, docks, &c., are very properly, in my opinion, included in the scope of this act.

Nearly all British vessels, and, undoubtedly, all those which are registered, possess a certificate from the Board of Trade in their register of tonnage, crew accommodation, lights, boats, &c., but this does not by any means imply that it is compulsory for those in charge, either on deck or in the engine-room, to be certificated, for it is well known to us, at least, if not to the general public, that many vessels with registers and certificates from the Board of Trade are plying from all our ports without a certificated man on board to take charge of the navigation or propulsion.

The amendment to this part of the clause proposed by me in interpolating the word "passenger" between "A" and "certificate," would meet the case, as the regulations of the Merchant Shipping Act, now in force, provide that all passenger vessels shall carry certificated officers and engineers, and I may here point out that



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character and ability, &c., are to be at the discretion and direction of the Secretary of State, I am entirely in accord with.

With regard to the second-class certificates proposed to be granted under this Act, and seeing that this grade will be by far the most extensively applied for, I must say that I am not entirely in agreement with the clause referring thereto.

It should, I think, be more clearly stated what is required of an applicant for this grade of certificate, for as I read it, there need be no technical or practical scrutiny of the applicant and his testimonials, and the two persons giving these testimonials may not be qualified judges, while a Secretary of State without some expert assistance could not be expected to be the judge of the qualifications required of a man to properly attend to engines and boilers, and for my part I should advocate an examination of the applicant by some competent official, as in the case of those who apply for certificates of the first-class, though naturally of a lower degree.

To quote an example, there are many large hotels and restaurants where the cooking and warming, &c., are done by steam, and the attendants on these may be said to be eligible to apply for certificates of the second class under this account; but this class of men could not possibly be deemed qualified to act as engine drivers on a tug or launch; but according to the Act he could claim that he was.

Probably, however, if this Act becomes law a Secretary of State will, with the assistance perhaps of the officials of the Board of Trade, make such an arrangement for the examination of the candidates and their testimonials as may be satisfactory and beneficial to the public at large, in whose interests the Bill is framed.



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Mr. ROBERT LESLIE (Hon. Treasurer) held that all machinery, especially boilers, should be in charge of a properly qualified man. He knew of several cases of accidents to road engines and boilers, and as such generally occurred near public thoroughfares, it seemed strange that this class of machinery should be excluded from the Bill, when public safety seemed to demand their inclusion.

Mr. J. T. SMITH (Member of Council) said that having carefully studied the Bill, he was unable to find the locality to be placed within its reach, whether the United Kingdom or elsewhere. He considered the clause relating to the service certificate too indefinite. In his opinion there should be three grades. The time mentioned was too short to cover the experience necessary for the highest grade. Many men could be trusted to look after machinery, such as winches, refrigerators, &c., who could not be placed in charge of boilers. The certificates should bear on them the specific duty which the holder was qualified for. There was no provision made in the Bill for inspection by qualified surveyors, and as it was a very important factor in considering the public safety when the overworking of a boiler was concerned, he thought that some stipulation should be made in the Bill for the inspection of boilers. They could be inspected periodically, either by the Boiler Insurance Company or the Board of Trade.

The CHAIRMAN referred to an article in "Engineering," where the Bill under discussion was criticised, and he commended the article in question to the attention of the members. The point just remarked upon by Mr. Smith was dealt with, and the whole Bill was looked upon by the writer as abortive in its present form. He added that a good deal of time had passed since it had been urged upon the attention of the Board of Trade as to the engineers' five years' workshop service qualification, and the third engineers' certificate, both of which recommendations had been

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favourably entertained, and yet they had got no further. Remembering this, he questioned how far this Bill would go.

Mr. A. CAMPBELL (Member of Council) agreed with the abolition of the meaningless expression—nominal horse-power. He considered that there was a vagueness as to several of the clauses, and endorsed the opinion already expressed that no boiler should be in charge of any man otherwise than one duly qualified to look after it. He understood that tug boats running within the coast precincts, river steamers, small coasters, and, indeed, all steamers not included in the present Merchant Shipping Act, would be included in this Bill. He questioned, in connection with this view, whether steamers would be, in terms of the Bill, allowed to carry junior engineers in charge of a watch without sea experience, as, in some cases, young fitters were sent away to sea direct from the workshop, and, when so sent, took charge of a watch from the first, excepting the time they were unable to keep their sea legs. There were cases where the chief engineer had a second class certificate in what was termed “Under power” steamers, and having two juniors to assist him. Would it be sufficient for purposes of this Act that the chief engineer had a certificate? Would the necessity of a third engineer’s certificate not come in here?

Mr. J. B. JOHNSTON (Member) pointed out that agricultural machinery was generally in charge of good qualified men, but there could be no doubt that this class of machinery was sometimes placed in positions which would bring wide-spread disaster in the event of an explosion, as in villages and country places there was usually a crowd gathered round to see the machinery at work. He considered the idea of certificates for donkeymen a good one, so also for chargemen in similar jobs on shore.

After some further discussion it was resolved to remit

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to the council for further discussion and consideration the results of the meeting, that the various clauses of the Bill might be further dealt with if considered necessary, and thereafter forward any objections and recommendations to Mr. Flannery, in accordance with his request.

The meeting concluded with a vote of thanks to the chairman.





