



Lloyd's Register of Shipping.

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Kobe, October 2nd, 1923.

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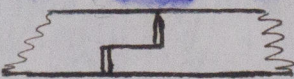
The Secretary,
 LONDON.

Dear Sir,

Tail Shaft Liner

London Letter of 12th July 1923, re "Horaisan Maru"

I beg to acknowledge your letter and I may say that the information and data contained therein is highly appreciated by the Kobe Surveyors.

From my own experience, the jointed liners have proved a source of trouble and danger, and during the past five years I have come across several tail shafts having different types of jointed liners. In a few cases, even with an ordinary stepped caulked joint thus,  the joint has not shown signs of slackness nor leakage, but in most cases, I find more or less slackness at the joints.

The worst case I have come across was the "HOKKAI MARU" Kobe Report No. 3714, which had a joint of the type sketched above. This liner was found slack at the joint. Drilled test holes showed corrosion under the liner and upon the liner being stripped off in way of the joint, very bad grooving was found. The shaft was placed in the lathe and the grooving caused by the galvanic or voltaic action was found to be visible all round at a depth

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of 3/4 of an inch.

The white metal filling at the joints of some shaft liners which I have had under survey, is particularly liable to crack and cause leakage if the step has not been shrunk on and pumped up with red lead injection to help to keep it water-tight,

In a few cases where the joints have been found tight, I have persuaded the Owners' Superintendents to send the shaft to the machine shop, have dovetail groove turned at the joint, and caulked with annealed copper strip. The brass liner is afterwards caulked over the copper strip with a large diameter tool. This method should, in my opinion, give longer life to the joint, as the copper should stand up better. Even this type, I agree, is not likely to prove permanently satisfactory.

Recently the Mitsu Bishi, Kobe Works, submitted the Tail Shafts of a small Twin Screw vessel (Yard No. 129) showing jointed liners, the diameter of the shafts being suitable for a CONTINUOUS LINER SHAFT, viz, 7-9/16" diameter. The diameter at the joints was increased upon my recommendation to that of a "two separate liner shaft" and as these Works have had no experience in "burning" joints, I recommended the taper step joint with copper strip caulked into the dovetail grooves after the liners have been pumped up at the joints with red lead injection.

I may say that I am making a special note on drawings of Tail Shafts submitted for approval, calling for continuous liners if these are shown, or else requiring that the diameter of the shaft be increased.

*I am, Dear Sir
Yours faithfully*

*W. D. Lloyd's Register
Foundation*

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sent as per 1/2 to

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Referred to the Chief Engineer Surgeon.

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for Mr. S. A. Hill to note.

+ Wm. M. M.

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Respectfully as follows