



Lloyd's Register of Shipping

UNITED WITH THE BRITISH CORPORATION REGISTER

Surveyors Office

900
350

8.68

5.2

RECEIVED

24 MAY 1952

Ref.:

Eng.

DUSSELDORF 20th May 1952

Breite Str. 29 (2nd Floor) - Tel. 16695 & 27570

Dear Sir,

We have been requested to undertake the Survey of new two bladed bronze propellers for the sailing ships "S.S. Pamir and S.S. Passat".

On looking into the matter, however, I find that these new propellers are to replace ones which, in each case, failed in service on the first voyage.

These propellers were approved by the Germanischer Lloyd and the new propellers have been ordered by Messrs. Howaldtswerke, Kiel, to the dual inspection of both Societies.

I have examined the fractures at the point of failure and in each case they are indicative of fatigue failure.

In the case of the blades of the S.S. Pamir, both failed and it is to be seen that on one blade the failure commenced at a point A Sketch (1) where a small hole 4 mm diam. by 3 mm deep had been drilled to remove a defect and filled, another small defect had been drilled at point B and on either side of this hole is a small crack as shown on the sketch.

With the other blade of this propeller the failure commenced at a very small local indent, the indent was probably made in service, Sketch II.

In the case of the S.S. Passat, failure of one blade occurred Sketch III. Two fatigue cracks are visible, one at the point A emanates from a small indent also probably made in service, and the other at the point B shows no defect at the point of commencement of failure.

As the case of the new propellers was extremely urgent the Surveyor attending the Makers Works forwarded plans of the new propellers to Hamburg for consideration but in

G

- 2 -



© 2018

Lloyd's Register
Foundation

Lloyd's Register of Shipping

REGISTERED IN THE OFFICE OF THE SURVEYOR GENERAL

Surveyors Office



REGISTERED 20th May 1952

REGISTERED 20th May 1952

REGISTERED 20th May 1952

REGISTERED 20th May 1952

REGISTERED 20th May 1952

REGISTERED 20th May 1952

REGISTERED

24th May 1952

REGISTERED

Page 112

We have been requested to undertake the survey of new two diesel engine propellers for the sailing ship "S.S. Lark" and "S.S. Lark".

On looking into the matter, however, I find that these new propellers are to replace ones which, in each case, failed to arrive on the first voyage.

These propellers were approved by the Surveyor General and the new propellers have been ordered by Messrs. Smith & Sons, Ltd., to the local inspection of the Surveyor General.

I have examined the drawings of the propellers and in each case they are satisfactory of the design.

In the case of the blades of the "S.S. Lark", both blades and it is to be seen that on one blade the leading edge is a point A (sharp) (1) where a small hole is shown by 2 on deep and is intended to remove a sharp edge. On the other blade, which is a small hole is shown on the other side of the hole is a small hole as shown on the sketch.

With the other blades of this propeller the design is similar to a very small level, the blades are probably made in pairs, Section II.

In the case of the "S.S. Lark", blades of one blade mounted on each side. The blades are the same, and at the point A (sharp) (1) where a small hole is shown by 2 on deep and is intended to remove a sharp edge. On the other blade, which is a small hole is shown on the other side of the hole is a small hole as shown on the sketch.

At the time of the new propellers were examined by the Surveyor General, the blades were found to be satisfactory for the purpose of the survey.



the light of my comments above I have retained the plans from Hamburg in this office, and issued a letter to the Makers as per the enclosed copy which is self explanatory.

A plan of the two bladed propellers is also enclosed on which I have added in blue the dimensions of the original propellers.

I might add that the machined sections of the propeller blades showed a sound clean structure, and I understand physical and chemical check tests have been made at Kiel.

The Makers state that the new propellers must be delivered within 14 days and one is already cast and stamped for tests.

The information I have requested in my letter are full details of the dynamic system but I have pointed out that whereas the Surveyor may continue to witness the material tests, so not to retard progress, this action will in no way be considered that the Society will either proceed with the inspection, or approve the propellers, I might add that the two bladed propellers are arranged to lie vertically in line with the stern post when the engines are not in use.

Please advise this office immediately of any further actions which you may desire to be taken.

It is understood the main engines in each case are 900 BHP, 6 Cylinder.

I am, Dear Sir,

Yours faithfully,



The Secretary,
L o n d o n

C.C. To HAMBURG.

C.C. To KIEL.

URGENT.

FENG

URGENT.

ENG

W.S.H.

R.L.

Calculations have shown that the working
propeller are greatly in excess of ~~the~~ modified design of
which is considerably less than 5500 hp.
Safe working ~~of~~ ^{also should not be exceeded as a} Diesel of survey
is informed.

10.6.52

2K.B.

J.M.

Oct 20, 1952

new 10, 100, 000

610 = high WP
900 = low WP