

Lloyd's Register of British
and Foreign Shipping.

Barrow-in-Furness.

9th Feb.

1893

B. Marshall Esq.
London. }

Dear Sir,

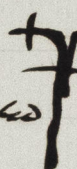
Herewith I beg to forward tabulated results showing the deflection of oil tight bulkheads in the N. C. & A. Co's No 215 S/S "Northern Light". At the first when the testing was commenced I tried the deflection with a thin chalk line but as this could only be done when the pressure was on the tank, it was arranged to have wires set up as shown on the plans and try the deflection when the tanks were full and pressed and this was carried out by the Builders.

It will be seen that the greatest deflection on the cross bulkheads when the

Tanks are under pressure $\frac{1}{4}$ " on the Middle line bulkhead $1\frac{3}{16}$ " and on the upper deck 1" - It will also be seen that the greatest deflection on the Middle line bulkhead takes place on line (C) ordinate (5) just in way of the hatchway on the Middle deck. Although the deflection could not be considered excessive it was considered advisable, as far as possible, to reduce it at this part, consequently it was recommended that a strong beam be fitted at the Middle deck in the center of the hatchways as indicated on the plan and this suggestion has been carried out.

It is respectfully suggested that it would be a more efficient way of stiffening the Middle line to have three webs in the length instead of two as in this instance, one of the webs to be placed in the middle of the length. It was found in testing these tanks to 16 ft. above the oil deck that the deck at the top of the expansion tanks

showed a tendency to change form but was prevented by temporary stiffening being fitted over and round the hatchways on shade deck.

Although these trunks are not intended to be under pressure when in use, yet it is respectfully suggested that it would be advisable to increase the thickness of the plating in way of the hatch. To make this plating as rigid as possible round the trunks angles have been fitted to the flanged brackets at the top thus  forming a double connection as indicated on the plan of Midship Section.

It was intended to have forwarded these particulars for your information before but the tabulated statements were not received from the Builders until yesterday.

The approved Midship Section and profile are herewith forwarded which please return at your earliest convenience.

I remain
Yours faithfully
Wm. Johnstone