

~~Notes~~ regarding observations made during the Voyage

Conclusions

Outward passage

After Consideration of the Measurements of the Movement of the framing ~~in the after hold~~ I thought that all the defects in the after hold are due to excessive painting of the Ship's Side, When rolling and pitching When the hold is not full of Cargo

This excess of painting is due to an insufficiency of Stiffness in

the framing. The framing is composed of a bulb angle frame and reversed angle forming a girder 7" in depth. This Ship is propelled by Steam turbines, the Sea Speed being

11½ knots, and in heavy weather — Which is stated by the Master

to be the rule rather than the exception in the North Atlantic —

When the vessel is partially loaded, the propeller does not race as it would if reciprocating engines were fitted, and it is therefore

not necessary in this account to reduce the Speed of the engine

thus it is probable that the Ship will pitch quicker and move violently, than would be the case if she were propelled by

reciprocating engines

Insert ①

The framing is composed of a bulb angle frame and reversed angle forming a girder 7" in depth, this is equivalent in strength to the Rule 9½" bulb angle frame but it is not so stiff and therefore

not so effective in resisting painting or shearing stresses in the shell rivets. It is considered however that had the bulb angle frame been fitted the painting of the ship's side would still have been ~~excessive~~ considerable

To remedy the defects in this hold and to prevent the recurrence of similar trouble it is considered that all defects rivets should be renewed, those in the frames being replaced by rivets 8" greater in diameter after the holes have been reamed.



out. Defective Caulking of the Shell Seams <sup>(1)</sup> Should be overhauled. approved  
Extra Stiffness Should be provided by fitting two or three "Web"  
frames in Conjunction with a plate Stronger on each Side of the Ship  
between the forward end of the tunnel vessel and frame N° 35 or other  
equivalent Strengthening arranged.

The partures in the bulwark rail are not considered of importance  
and no repairs <sup>to the bulwark</sup> are thought to be advisable.

### Examination Made as the Cargo was discharged at Portland Maine

The defects in N° 1 hold are of a minor character and are considered  
not to be due to weaknesses in the structure.

Insert (2)

out { The riveting and Caulking of the leaking Shell butts in N° 2  
Hold Should be overhauled and it is recommended that a  
fore and aft Stiffening angle be fitted at the middle of the butt  
between the adjacent frames.

### Homeward passage

The recorded Movements of the engine and boiler room Strongers are not considered to be excessive.

The movement of the engine and boiler room framing however, especially on the  
Starboard Side is thought to be too great and may cause started  
rivets in the future.

The framing is formed of bulb angle frame and reversed frame  
as in the after hold.

but { If a Web frame were fitted at about the middle of the length  
of the engine space on each Side of the Ship, the risk of future  
trouble would be reduced.



The cracks in Way of the Side Stringer in the Engine room, & in Way of Starboard rivets in the Shell attachment angles, appear to indicate excessive Shear Stress in these rivets and it is recommended that when the defective rivets are being renewed, additional Shell Lugs should be fitted from frame No 76 to 78 and 83 to 85

but { The oscillation of the feed heater and Movement of the evaporator could be prevented by Staying the heater to the additional Web frame should this be fitted and by connecting the Seating of the evaporator by Substantiated brackets to the tank Side knees below it

The Slight defects in the after peak are not considered to be due to any weakness of the structure. It is recommended that after the necessary repairs have been effected, they should be taken by filling the adjacent flow spaces with water

### Conclusion

It is suggested that in view of the type of framing fitted in this Ship not being the same as set forth in the Rules, and the Vessel being propelled by Steam turbines, the observations made and practical experience gained during the voyage, <sup>although valuable</sup> do not in themselves form a sufficiently sound basis on which the Society could formulate additional requirements for vessels engaged in the North Atlantic trade.

It might be helpful, however, if the principal experts were requested when reporting cases of heavy weather damage to state the voyage, Condition of loading and the Speed of the Ship at the time the heavy weather was encountered. Each Case could then be specially investigated, and practical data compiled on which to base a decision as to whether it would be advisable to require extra strengthening in vessels engaged in this trade