

27539

Composite Ship,
REPORT of SURVEY for REPAIRS.

No. in Reg. Book. **No.** 204 Survey held at London Date 30th May to 16th June 18 66.
 on the Ship "Milbrook" Master Walter Bisset
 Tonnage 876 Built at London When built 1864 (1. M^o.)
 By whom built Major Owners J. Fleming.
 Port belonging to London Destined Voyage Shanghai.
 If Surveyed Afloat or in Dry Dock Union Dry Dock and East India Dock.

Last Survey, No. 26886 Port London Classed 12 A 1
 5. 6A.

REPAIRS Now done:- The Yellow Metal sheathing stripped off the Bottom, and caulked from the Steel to the metal line, also the whole of the upper deck.

Resheathed the Bottom with Yellow metal over felt.
 This vessel is constructed with vertical Iron-frames ^(vertical plates) and Wood Floors, and a single thickness of Wood-planking, worked longitudinally. The Planks are fastened to the frames with galvanized Iron bolts throughout. Their heads are separated from the Yellow Metal sheathing, by being sunk within the surface of Bottom-planking, and plugged over with Wood-plugs, having their fibre in the same direction, as that of the Wood-planking. The Wood-heads are fastened with Yellow Metal.

On inspecting this vessel in the Dry Dock, before the removal of the Yellow Metal sheathing, the latter was found to be perfectly smooth, there being not the slightest sign of sprinkling.

By permission of the Owners, a dozen bolts, six of a side, were

Present Condition of the

	<i>Bolts</i> <i>Transoms</i>	<i>Effective</i>	
Decks			Windlass and Capstan
Waterways	<u>faulked</u>	<u>good</u>	Pumps <u>two</u>
Comings			Boats <u>three</u>
Upper Deck Beams & Fastenings	<u>firm</u>		Masts, Yards, &c.
Lower Deck Beams & Fastenings	<u>where</u>		Condition, how ascertained <u>by inquiry & observation from deck.</u>
Planksheers			Sails <u>shated to be two, sent.</u>
Sheerstrakes			Anchors No. of <u>3/15-2K</u>
Topsides	<u>seen</u>	<u>seen</u>	Cables
Wales			Hawsers and Warps
Plank (Bottom) and Counter	<u>faulked</u>	<u>seen</u>	Standing & Running Rigging
General Observations and Opinion,			
	<u>Copper Yellow Metal</u>	<u>When put on now.</u>	
	<u>over felt.</u>		
	<u>Caulking of Bottom, Deck, & Waterways.</u>	<u>good where tested.</u>	

Some bolts have been driven out for inspection, and although not quite satisfactory, they are, in my opinion, effective.

She is in good and efficient condition, fit, in my opinion, to remain as classed, and to be marked "B.S. 1866" in the Registry Book.

The Amount of Fee.....£ : : is received by me, 1/66

Special..... / : / : -

Certificate (if required) : :

Committee's Minute 19th June 18 66

Character assigned 12 A 1



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were driven out from the upper-tunn of Bilges for inspection. They were found to have been so far affected by the action of the Yellow Metal sheathing, as to prove beyond doubt that, the practice of such sheathing being wrought over the Bottoms of Vessels fastened with galvanized Iron-bolts plugged over, is a very expensive and hazardous one. Expensive on account of the great cost of renewing such bolts, at comparatively frequent periods; and hazardous, because the galvanic-action, after it has once commenced, goes on at an increased ratio; - which will ultimately result in the total destruction of the bolt-heads, and in the wasting of the bolts themselves; - Thus rendering the fastenings, - upon the firmness of which the durability of these Ships so much depends, - inefficient and leaky. And I am, further, apprehensive of still more serious consequences resulting, from the Bolts acting as conductors, of this galvanic-action, to the Iron-frames of such Ships.

Judging then from the state of this Vessel's fastenings, - at so early a period, and also from those of other Ships, which have recently passed under notice, - I am of opinion, that the present system of separating the heads of galvanized Iron-bolts from the Copper or Yellow Metal on Ships' Bottoms, either by means of plugs having their fibre in the same direction as the bolts, or those with their fibre in the same direction as that of the Wood-planking, has entirely failed, to effect perfect insulation, between the Yellow Metal sheathing and the Iron fastenings.

It is with great deference, therefore, that I draw the attention of the Committee to that part of the proposed Rules for building Composite Ships, relating to the Wood-sheathing of the Bottoms of such Vessels fastened with galvanized Iron-bolts, before they are sheathed with Yellow Metal; - and also to my letter upon those Rules, dated the 24th May 1886, suggesting certain modifications thereon; - asking, in my opinion, the next best mode of protecting the fastenings of such Vessels at a minimum cost.

Specimens of these bolts driven out of this vessel, are submitted for the Committee's inspection.

The bolts driven out for examination have been replaced by others a size larger, and plugged over.

Williamson.



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