

IRON SHIPS.

Recd 7/4/64

No. 8073 Survey held at Sunderland Date April 4th 1864
 on the Ship "Sophia Jackson" Master Ransom
 Tonnage Gross 1018 ^{Under deck 263.26} ^{Cabin aft 47.35} ^{Engine Room 99} Register 101870 Built at Sunderland
 When Built 1863-4 Launched 10th March 1864 By whom built N. Pile, Hay & Co
 Port belonging to London Destined Voyage Calcutta
 Laid on the Keel Whilst building

Length aloft 204 ^{Feet} 8 ^{Inches} Extreme Breadth.... 32 ^{Feet} 8 ^{Inches} Depth from top of Upper Deck } 21 ^{Feet} 8 ^{Inches} Beam to top of Floor..... } Power of Engines.... Horse.

Distance of Frames or Ribs from moulding edge to moulding edge, all fore and aft	Inches in Ships.			Inches required per Rule.			Stem, $\frac{1}{2}$ bar iron, moulding and thickness	Inches. In Ship.	16ths. In Ship.	Inches. required per Rule.	16ths. required per Rule.
	Inches. In Ship.	Inches. In Ship.	16ths. In Ship.	Inches. required per Rule.	Inches. required per Rule.	16ths. required per Rule.					
	<u>24</u>			<u>23</u>			Stem, $\frac{1}{2}$ bar iron, moulding and thickness	<u>9 1/2</u>	<u>2 1/2</u>	<u>8</u>	<u>3</u>
							" if plate iron, breadth and thickness	<u>9 1/4</u>	<u>2 3/8</u>	<u>8</u>	<u>3</u>
Floors, Size of Angle Iron, and No. at bottom of Floor Plate.	<u>4 1/2</u>	<u>3 1/2</u>	<u>9</u>	<u>4 1/4</u>	<u>3</u>	<u>8</u>	Stern-post, $\frac{1}{2}$ bar iron, moulding and thickness	<u>8 1/4</u>	<u>3</u>	<u>8</u>	<u>3</u>
" depth and thickness of Floor Plate at mid line	<u>22</u>		<u>10</u>	<u>2 1/2</u>		<u>10</u>	" " if plate iron, breadth and thickness	<u>2 1/2</u>	<u>2 1/2</u>	<u>8</u>	<u>5</u>
" depth and thickness of Floor Plate at Bilge Keelson	<u>10</u>		<u>10</u>			<u>10</u>	Garboard Plates, Breadth and thickness	<u>33</u>	<u>13</u>	<u>30</u>	<u>13</u>
" Size of Reversed Angle Iron, and No. at top of Floor Plate..	<u>3</u>	<u>3</u>	<u>7</u>	<u>3 1/4</u>	<u>3</u>	<u>7</u>	From Garboard to upper part of Bilge		<u>12</u>		<u>12</u>
Frames, Size of Angle Iron, single or double.	<u>4 1/2</u>	<u>3 1/2</u>	<u>9</u>	<u>4 1/4</u>	<u>3</u>	<u>8</u>	From upper part of Bilge to Sheerstrakes	<u>10 1/4</u>		<u>10 1/4</u>	
" Reversed Iron, $\frac{1}{2}$ to every frame and to every alternate frame. to..	<u>3</u>	<u>3</u>	<u>7</u>	<u>3 1/4</u>	<u>3</u>	<u>7</u>	Sheerstrakes, Breadth and thickness	<u>3 1/2</u>	<u>14 1/2</u>	<u>30</u>	<u>14 1/2</u>
Beams, Deck (No. <u>48</u>) double Angle Iron, Plate, or Bulb Iron	<u>8</u>		<u>8</u>	<u>8</u>		<u>8</u>	Butt Straps to outside plating, Breadth and thickness	<u>10 1/2</u>	<u>11</u>	<u>9 1/2</u>	<u>11</u>
" double or single Angle Iron, on upper edge	<u>3</u>	<u>3</u>	<u>6</u>	<u>3</u>	<u>3</u>	<u>6</u>	Planksheers .. and ..				
" average space between	<u>4 feet</u>		<u>3/10</u>				Gunwale Plate or Stringer on ends of Up. Dk Beams	<u>29</u>	<u>11</u>	<u>29</u>	<u>10</u>
" if wood (No.) sided & moulded							Angle Iron on ditto	<u>5 1/2</u>	<u>9</u>	<u>5 1/2</u>	<u>9</u>
Hold, or Lower Deck (No. <u>47</u>) double Angle Iron, Plate, or Bulb Iron	<u>8</u>		<u>8</u>	<u>8</u>		<u>8</u>	Diagonal Tie Plates on Beams	<u>14 1/4</u>	<u>11</u>	<u>12</u>	<u>10</u>
" double or single Angle Iron, on upper edge	<u>3</u>	<u>3</u>	<u>6</u>	<u>3</u>	<u>3</u>	<u>6</u>	Waterway				
" average space between	<u>4 feet</u>		<u>3/10</u>				Deck	<u>3 1/2</u>		<u>3 1/2</u>	
" if wood (No.) sided & moulded							Ceiling in Hold & Bath	<u>2 1/2</u>	<u>2</u>		
Paddle, wood, sided and moulded, or if Iron, size of Plate							Ceiling betwixt Decks	<u>2</u>			
Engine							Beam Clamps or Spirketting				
Keelson, single plate, box, or intercostal	<u>27</u>		<u>10</u>	<u>26 1/2</u>		<u>10</u>	" Shelf				
" Size of Plate on top edge	<u>8</u>		<u>8</u>	<u>8</u>		<u>8</u>	Stringer Plates on ends of Hold or Lower Dk Beams	<u>22</u>	<u>11</u>	<u>21 1/4</u>	<u>10</u>
" Size of Angle Irons	<u>5 1/8</u>	<u>4 1/8</u>	<u>9</u>	<u>5</u>	<u>4 1/4</u>	<u>9</u>	Ceiling between Decks	<u>2</u>			
Ditto Bilge (No. <u>2</u>) of double angle iron	<u>5 1/8</u>	<u>4 1/8</u>	<u>9</u>	<u>5</u>	<u>4 1/4</u>	<u>9</u>	Stringer or Tie Plates outside Hatchways	<u>14</u>	<u>11</u>	<u>12</u>	<u>10</u>
Transoms, material <u>plate</u> or, if none, in what manner compensated for.	<u>8</u>		<u>8</u>	<u>8</u>		<u>8</u>	Deck Beam Clamps or Spirketting				
							" Shelf				
Knight-heads, and Hawse Timbers							Stringers in Hold	<u>5 1/2</u>	<u>9</u>	<u>5 1/2</u>	<u>9</u>
The Frames or Ribs extend in one length from <u>Keel</u> to <u>Gunwale</u> rivetted through plates with (<u>7/8</u> in.) rivets, about (<u>5 1/2</u> in.) apart.							Deck, Lower	<u>3</u>			
The reverse angle irons on the floors extend in one length across the middle line from <u>Keel</u> to <u>Lower Deck</u>							Deck, Upper, how fastened to Beams				
" " " on the frames " " " from <u>Keel</u> to <u>Gunwale</u> on alternate frames							Bulkheads, No. <u>One</u> Thickness of <u>6/16</u> full				
Keelson, how are the various lengths of plates or angle irons connected? <u>with Butt straps</u>							" how secured to the sides of the ship <u>double framed</u>				
Plates, Garboard, double or single rivetted to keel & at upper edge, with rivets (<u>1/4</u> in.) diameter averaging (<u>5 1/2</u> in.) from centre to centre of rivet.							" size of vertical angle iron and their distance apart <u>4 x 3 x 1/8 x 2 1/2</u>				
" Edges from Garboards to upper part of bilge, worked carvel with a lining piece (<u>1/2</u> in.) thick, or clencher, double or single rivetted; rivets (<u>1/8</u> in.) diameter, averaging (<u>3 1/2</u> ins.) from centre to centre of rivets.							The Frames or Ribs extend in one length from <u>Keel</u> to <u>Gunwale</u> rivetted through plates with (<u>7/8</u> in.) rivets, about (<u>5 1/2</u> in.) apart.				
" Butts from Keel to turn of bilge, worked carvel with a lining piece (<u>1 1/2</u> in.) thick, double or single rivetted; rivets (<u>7/8</u> in.) diameter, averaging (<u>3 1/2</u> ins.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? <u>at alternate strakes</u>							The reverse angle irons on the floors extend in one length across the middle line from <u>Keel</u> to <u>Lower Deck</u>				
" Edges from bilge to sheerstrake, worked carvel with a lining piece (<u>1/2</u> in.) thick, or clencher, double or single rivetted; rivets (<u>7/8</u> in.) diameter, averaging (<u>3 1/2</u> in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? <u>at alternate strakes</u>							" " " on the frames " " " from <u>Keel</u> to <u>Gunwale</u> on alternate frames				
" Edge of Sheerstrake, double or single rivetted? <u>at lower edge & single rivetted at upper edge to Bulwark</u>							Keelson, how are the various lengths of plates or angle irons connected? <u>with Butt straps</u>				
" Butts from bilge to planksheers, worked carvel with a lining piece (<u>1 1/8</u> in.) thick, double or single rivetted; rivets (<u>7/8</u> in.) diameter averaging (<u>3 1/2</u> ins.) from centre to centre of rivets. Breadth of laps in double rivetting (<u>5</u>) Breadth of laps in single rivetting (<u>3</u>)							Plates, Garboard, double or single rivetted to keel & at upper edge, with rivets (<u>1/4</u> in.) diameter averaging (<u>5 1/2</u> in.) from centre to centre of rivet.				
Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted							" Edges from Garboards to upper part of bilge, worked carvel with a lining piece (<u>1/2</u> in.) thick, or clencher, double or single rivetted; rivets (<u>1/8</u> in.) diameter, averaging (<u>3 1/2</u> ins.) from centre to centre of rivets.				
Planksheer, how secured to the plating of the sides							" Butts from Keel to turn of bilge, worked carvel with a lining piece (<u>1 1/2</u> in.) thick, double or single rivetted; rivets (<u>7/8</u> in.) diameter, averaging (<u>3 1/2</u> ins.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? <u>at alternate strakes</u>				
Waterway " " planksheer and to the Beams							" Edges from bilge to sheerstrake, worked carvel with a lining piece (<u>1/2</u> in.) thick, or clencher, double or single rivetted; rivets (<u>7/8</u> in.) diameter, averaging (<u>3 1/2</u> in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? <u>at alternate strakes</u>				
Deck Beams, how secured to the side?							" Edge of Sheerstrake, double or single rivetted? <u>at lower edge & single rivetted at upper edge to Bulwark</u>				
Hold or Lower Deck "							" Butts from bilge to planksheers, worked carvel with a lining piece (<u>1 1/8</u> in.) thick, double or single rivetted; rivets (<u>7/8</u> in.) diameter averaging (<u>3 1/2</u> ins.) from centre to centre of rivets. Breadth of laps in double rivetting (<u>5</u>) Breadth of laps in single rivetting (<u>3</u>)				
Paddle "							Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted				
No. of breasthooks <u>five</u> <u>four</u> how are pointers compensated? <u>plate transoms</u>							Planksheer, how secured to the plating of the sides				
What description of iron is used for the angle iron and plate iron in the vessel? <u>Plate from Bolckow & Vaughan</u> Builder's Signature <u>W. P. Pile</u> Lloyd's Register							Waterway " " planksheer and to the Beams				
<u>and the angle iron from Lobb Wilson & Bell & Hopkins & Co. of Newcastle</u>							Deck Beams, how secured to the side?				

IRON 57-0212

3541 Iron

Workmanship. Are the lands or laps of the clenchwork in all cases in breadth at least five times the diameter of the rivets in double rivetted edges and butts, and at least three times the diameter of the rivets where single rivetting is admitted? They are
 Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? They do
 Do the fillings between the ribs and plates fill in solid with single pieces, or are they in short lengths of various thicknesses? Solid pieces
 Do the holes for rivetting plate to frames, lining pieces, or plate to plate, &c., conform well to each other? They do and are the rivet holes well and sufficiently countersunk in the outer plate? They are
 Are there any rivets which either break into or have been put through the seams or butts of the plating? a few in the butts

Her Masts, Yards, &c., are in Good condition, and sufficient in size and length.

She has SAILS.		CABLES, &c.		ANCHORS, and their weights.			
N ^o .		Certificates produced	Fathoms.	Inches.	Certificate produced	N ^o .	Weight.
2	Fore Sails,	Chain	300	1 3/4	Bower,	3	40.32
4	Fore Top Sails,	Hempen Stream Cable <u>2 1/2</u>	60	1	" " " "		39.2.10
2	Fore Topmast Stay Sails,	Hawser	90	6 1/2	Stream,	1	11.2.10
1	Main Sails,	Towlines	90	8 1/2			
4	Main Top Sails,	Warp	90	6	Kedge,	2	5.2.2
and others as usual		All of <u>Good</u> quality.					3.3.7

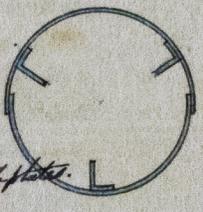
Her Standing and Running Rigging Wire Hemp & Manila sufficient in size and Good in quality.

She has One Long Boat and three others
 The present state of the Winders is Good Capoten 2 Good and Rudder Good Pumps Good

General Remarks, Statement and Date of Repairs, extent of corrosion (if any) both internally and externally, and condition of rivets.

- 1st. On the several parts of the frame, when in place, and before the plating was wrought Built under
 2nd. On the plating during the progress of rivetting Special Survey between
 3rd. When the beams were in and fastened, and before the decks were laid the 1st of October 1863
 4th. When the ship was complete, and before the plating was finally coated and the present date
 5th. After the ship was launched (See Secretary's Letter, dated 7th Aug 1863)

The Foremast Mainmast & Bowspit, are constructed of Iron as per sketch, with plates 1/10 thick lap seamed & flush butted, the seams single and the butts double rivetted, and stiffened with three angle irons 4 x 3 x 3/16; the butt straps of corresponding thickness with plates.



This vessel has a topgallant forecattle & a short raised deck round the quarters, a House for Cabin accommodation immediately before it on the Main Deck, and an elliptic Stern.

It will be seen that the sectional area of the keel is = to 8 x 3/16 small the stem also small, the reverse angle irons on frames & staves 1/4 x 1/16 less and the Collision Bulkhead 1/32 of an inch thin; the frames 1/4 x 1/16 larger the Sternpost 3 x 1/4 &c, Garboard Strakes 3 inches broader, Keelson 1/2 deeper, Sheer Strakes 1/2 broader, Diagonal and longitudinal tie plates on Beams 2 x 2 1/4 broader & 1/16 thicker, Stringer plates on Hold Beams ends 1/4 wider & 1/16 thicker, and the Angle iron stiffening bars on the Collision Bulkhead 3/4 x 1/16 larger than is required by the Rules.

Should the Committee deem the exceptions named, sufficient compensation for the several deficiencies, the vessel is in other respects eligible for the class recommended below.

In what manner are the surfaces preserved from oxidation? Portland Cement to turn of bilge, oxide of Iron & white lead internally, oxide of Iron & M.E. Swedish paint externally

I am of opinion this Vessel should be classed 12. A.1

The amount of the Fee £ 5 : : : is received by me,

Order No 143 Special £ 50 : 18 : :

Certificate (if required) £ : : : :

Committee's Minute 8th April 1864

Character assigned A 1 for 12 Years

J. W. Miles
 The tonnage of this sailing ship of Iron is 962.25 Gross Tonnage 47.35 Cabin 87 0.55 Tonnage 1010.22 Gross Register
 The scantlings have been compared with the 900 Ton scale, the deviation from the scantlings are not important, but by her gross tonnage she requires an Intercast keelson on each side as will be seen by sketch. The Steam Chain is shown April 1/64

