

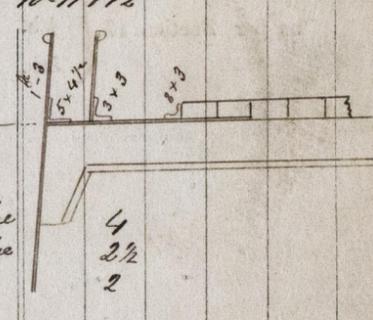
# IRON SHIPS.

Rec. 4/10/60

No. 16600 Survey held at Liverpool Date Jan<sup>y</sup> 18<sup>th</sup> to 29<sup>th</sup> Sept<sup>r</sup> 1860  
 on the Iron Ship "Sarah & Emma" Master B Wingate  
 Tonnage Gross 1097<sup>02</sup> Engine Room Register Built at Liverpool Launch 1<sup>st</sup> Sept<sup>r</sup> 1860  
 When Built 1860 By whom built Thos Vernon & Son Owners Farnworth & Jardine  
 Port belonging to Liverpool Destined Voyage Calcutta  
 Surveyed Afloat or in Dry Dock While Building under Special Survey Afloat

Length aloft ..... 199<sup>6</sup>/<sub>10</sub> Extreme Breadth.... 33<sup>8</sup>/<sub>10</sub> Depth from top of Upper Deck } 22<sup>9</sup>/<sub>10</sub> Power of Engines.... none  
 Beam to top of Floor..... }

Distance of Frames or Ribs from moulding edge to moulding edge, all fore and aft	Feet.		Inches.		Inches in Ship	Inches required per Rule.		16ths required per Rule.	Stem, if bar iron, moulding and thickness	16ths required per Rule.	16ths required per Rule.	16ths required per Rule.		
	Inches.	16ths.	Inches.	16ths.		Inches.	16ths.							
Floors, Size of Angle Iron, and No. <u>one</u> at bottom of Floor Plate.....	<u>5</u>	<u>3</u>	<u>9</u>	<u>5</u>	<u>3</u>	<u>9</u>	<u>5</u>	<u>3</u>	Stem, if plate iron, breadth and thickness	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	
„ depth and thickness of Floor Plate at mid line .....	<u>26</u>		<u>11</u>	<u>23</u>		<u>11</u>			„ „ if plate iron, breadth and thickness	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	
„ depth and thickness of Floor Plate at Bilge Keelson .....	<u>6</u>		<u>11</u>	<u>5</u>		<u>11</u>			Keel, if bar iron, depth and thickness.....	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	
„ Size of Reversed Angle Iron, and No. <u>one</u> at top of Floor Plate..	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8</u>	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8</u>	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	„ if plate iron, breadth and thickness	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	
Frames, Size of Angle Iron, single <u>or double</u> ..	<u>5</u>	<u>3</u>	<u>9</u>	<u>5</u>	<u>3</u>	<u>9</u>	<u>5</u>	<u>3</u>	Garboard Plates, thickness..			<u>14</u>	<u>14</u>	
„ Reversed Iron, <u>3</u> to every frame	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8</u>	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8</u>	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	From Garboard to upper part of Bilge.....	<u>Best Staffordsh</u>	<u>12</u>	<u>12</u>		
Beams, Deck (N <sup>o</sup> . <u>62</u> ) <u>double Angle Iron</u> ..	<u>5</u>	<u>3</u>	<u>9</u>	<u>5</u>	<u>3</u>	<u>9</u>	<u>5</u>	<u>3</u>	From upper part of Bilge to Sheerstrakes.....	<u>And</u>	<u>11</u>	<u>11</u>		
„ Bulb Iron with double Angle Iron on top .....	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8</u>	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8</u>	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	Sheerstrakes .....	<u>Sheepshie</u>	<u>12</u>	<u>12</u>		
„ depth & thickness of plate amidships	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>9</u>	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>9</u>	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>9</u>	Breadth & thickness of Butt Straps to outside plating	<u>Iron</u>	<u>10-11</u>	<u>9</u>	<u>12</u>	
„ <u>double or single Angle Iron</u> on lower edge .....	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8</u>	<u>3</u>	<u>3</u>	<u>8</u>	<u>3</u>	<u>7</u>	Planksheers .....	<u>Iron</u>				
„ average space between .....	<u>3ft</u>			<u>3ft</u>					Gunwale Plate or Stringer on ends of Up. Dk Beams	<u>3<sup>1</sup>/<sub>4</sub> 1/16</u>				
„ if wood (N <sup>o</sup> . ..) sided & moulded									Angle Iron on ditto.....	<u>Iron</u>				
Hold, or Lower Deck (N <sup>o</sup> . <u>59</u> ) <u>double Angle Iron or Bulb Iron</u> with double Angle Iron on top	<u>3<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>8</u>	<u>3</u>	<u>3</u>	<u>8</u>	<u>3</u>	<u>4</u>	Waterway .....	<u>Iron</u>				
„ depth & thickness of plate amidships	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>9</u>	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>3</u>	<u>9</u>	<u>8<sup>1</sup>/<sub>2</sub></u>	<u>9</u>	Deck.....	<u>Yellow Pine</u>	<u>4</u>			
„ <u>double or single Angle Iron</u> on lower edge .....	<u>3ft</u>			<u>3ft</u>					Ceiling in Hold .....	<u>Elm &amp; Red Pine</u>	<u>2 1/2</u>			
„ average space between .....	<u>3ft</u>			<u>3ft</u>					Ceiling betwixt Decks ...	<u>Red Pine</u>	<u>2</u>			
„ if wood (N <sup>o</sup> . ..) sided & moulded									Beam Clamps .....					
Paddle, wood, sided and moulded or if Iron, size of Plate .....									„ Shelf .....					
„ Engine .....									„ Stringer Plates on ends of Hold or Lower Dk Beams	<u>Iron</u>	<u>36</u>	<u>11</u>		
Keelson, wood, sided & moulded, iron, size of plate, & Box, give sketch & dimensions	<u>12 x 1/16</u>		<u>2 Bars 5 x 1/2</u>						Ceiling between Decks ...	<u>See above</u>				
„ Side or Bilge <u>Intercostal</u> .....	<u>15 1/2 x 3/16</u>		<u>1 3 x 3</u>						Stringer or Tie Plates outside Hatchways ...		<u>12 3/4</u>	<u>11</u>	<u>12 3/4</u>	<u>11</u>
„ Number .....	<u>15 1/2 x 3/16</u>		<u>Plate 1/16 in 2 angle bars 5 x 1/2</u>						Deck Beam Clamps .....		<u>25 1/2</u>	<u>11</u>	<u>25 1/2</u>	<u>11</u>
			<u>and two bars of angle iron welded on to each 5 x 1/2</u>						„ „ Shelf .....					
									Stringers in Hold .....	<u>Double angle bars 5 x 1/2 &amp; 9/16 with plate 9 x 9/16 between Yellow Pine 3</u>				



Transoms, material Iron or, if none, in what manner compensated for. frames & stringer plates  
 Knight-heads „ Iron Bulkheads, N<sup>o</sup>. Two Thickness of 1/16  
 Hawse Timbers „ Iron are they free from defects? „ how secured to the sides of the ship by one frame & Bracket Plates  
 „ size of vertical angle iron and their distance apart 3 1/2 x 3 x 1/2 - 30 apart  
 The Frames or Ribs extend in one length from Keel to gunwale rivetted through plates with (1/8 in.) rivets, about (7/16) apart.  
 The reverse angle irons on the floors extend in one length across the middle line from Bilge to Bilge & alternately to top of bilge  
 „ „ „ on the frames „ „ from Bilge to Lower Deck on every frame and from Bilge to gunwale  
 Keelson, how are the various lengths of plates or angle irons connected? by welts & 9/16  
 Plates, Garboard, double or single rivetted to keel & at upper edge, with rivets (1 ins.) diameter averaging (3 3/4 in.) from centre to centre of rivet.  
 „ Edges from Garboards to upper part of bilge, worked carvel with a lining piece (1/2 in.) thick, or clencher, double or single rivetted; rivets (1/8 in.) diameter, averaging (3 1/4 ins.) from centre to centre of rivets.  
 „ Butts from Keel to turn of bilge, worked carvel with a lining piece (3/4) thick, double or single rivetted; rivets (1/8 in.) diameter, averaging (3 1/4 ins.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? on each alternate tier of plating  
 „ Edges from bilge to planksheer, worked carvel with a lining piece (1/2) thick, double or single rivetted; rivets (1/8 in.) diameter, averaging (3 1/4 in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? on each alternate tier of plating  
 „ Butts from bilge to planksheers, worked carvel with a lining piece (1/16) thick, or clencher, double or single rivetted; rivets (1/8 in.) diameter averaging (3 1/4 ins.) from centre to centre of rivets. Breadth of laps in double rivetting (5) Breadth of laps in single rivetting (2 7/8)  
 Planksheer, how secured to the plating of the sides } Explain by sketch, } By Angle Iron  
 Waterway „ „ planksheer and to the Beams } if necessary. }  
 Side trussing „ „ breadth and thickness of plates „ how secured? See Beam Clamps & Bilge Stringers  
 Deck trussing „ „ „ „ ? See Tie Plates  
 Deck Beams, how secured to the side? By knees of plate Iron 22 Inches deep & also stringer plates  
 Hold or Lower Deck „ „ „ „ ditto  
 Paddle „ „ „ „  
 „ of breasthooks „ „ crutches „ how are pointers compensated? By plates fitted & rivetted between frames  
 What description of iron is used for the angle iron and plate iron in the vessel? Best Maff & Sheepsheer Builder's Signature  
Thomas Vernon & Son

2252 Men

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? yes

Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? yes

Do the fillings between the ribs and plates fill in solid with single pieces, or are they in short lengths of various thicknesses? solid with single pieces

Do the holes for rivetting plate to frames, lining pieces, or plate to plate, &c., conform well to each other? yes and are the rivet holes well and sufficiently countersunk in the outer plate? yes

Are there any rivets which either break into or have been put through the seams or butts of the plating? Very few

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

She has SAILS.		CABLES, &c.		ANCHORS, and their weights.	
N <sup>o</sup> .			Fathoms. Inches.	N <sup>o</sup> .	Weight.
2	Fore Sails,	Chain	300 1 3/4	Bower, ...	3 33.3.21
2	Fore Top Sails,	Chain	80 1	Stream, ...	1 9.2.27
2	Fore Topmast Stay Sails,	Hawser	90 8	Kedge, ...	2 5.3.10
2	Main Sails,	Towlines	90 11		3.1.4
2	Main Top Sails,	Warp	90 7		
	and others	All of <u>Best</u> quality.			

Her Standing and Running Rigging is of Hemp sufficient in size and of the best in quality.

She has one Long Boat and three others

The present state of the Windlass is good Capstan 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.

- DATES of Surveys held while building, as per Section 17.
- 1st. On the several parts of the frame, when in place, and before the plating was wrought
  - 2nd. On the plating during the progress of rivetting
  - 3rd. When the beams were in and fastened, and before the decks were laid
  - 4th. When the ship was complete, and before the plating was finally coated
  - 5th. After the ship was launched

*By quantity what building under Special Survey*

The materials of which this ship is built together with the workmanship are of the best description

*Sarah Emma 16,600.-*

In what manner are the surfaces preserved from oxidation? Red Lead and M<sup>r</sup> Jones Patent Composition

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

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

Special .....£ 54 : 17 : - 3/10/60

Certificate (if required) .....£ : Grates

Committee's Minute 5<sup>th</sup> Oct 1860

Character assigned A 1 for 12 Years

*W. W. W. I Wmshurst*  
The applicant is eligible for the Class recommended  
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