

# IRON SHIPS.

Prepared in accordance with the Rules and Table 4. 500 Tons and A Grade  
 No. 19529 Survey held at Liverpool Date Jan'y 24<sup>th</sup> 19<sup>th</sup> August 1880  
 on the iron ship "Camana" Master John Patterson

Tonnage under tonnage deck 579.52 Built at Liverpool When built 1865 Launched 13<sup>th</sup> June  
 Ditto of poop or spar deck  
 Ditto of engine room 13.27 By whom built T. Vernon & Son Owners Nicholson & Co. Ltd.  
 Total Register tonnage 592.79 Port belonging to Liverpool Destined Voyage Valparaiso  
 Cross tonnage 592.79  
 Surveyed while Building, Afloat, or in Dry Dock On the Building Slip and in Dry Dock.

Length aloft	Feet.	Inches.	Extreme Breadth	Feet.	Inches.	Depth from top of Upper Deck Beam to top of Floor	Feet.	Inches.	Power of Engines	Horse.	No. of Decks
(Dimensions of Ship per Register, length)	<u>71</u>	<u>6</u>		<u>27</u>	<u>10</u>		<u>18</u>	<u>0</u>			<u>One</u>
	<u>71.7</u>			<u>27.9</u>			<u>18.0</u>				

Item	Inches in Ship	Inches required per Rule	16ths in Ship	16ths required per Rule	Notes
Keel, <u>bar iron</u> , depth and thickness	<u>7 x 2 1/2</u>	<u>7 x 2 1/2</u>			
" <u>plate iron</u> , breadth and thickness	<u>7 x 2 1/2</u>	<u>7 x 2 1/2</u>			
Stem, <u>bar iron</u> , moulding and thickness	<u>7 x 2 1/2</u>	<u>7 x 2 1/2</u>			
" <u>plate iron</u> , breadth and thickness	<u>7 x 2 1/2</u>	<u>7 x 2 1/2</u>			
Stern-post, <u>bar iron</u> , moulding and thickness	<u>7 x 2 1/2</u>	<u>7 x 2 1/2</u>			
" <u>plate iron</u> , breadth and thickness	<u>7 x 2 1/2</u>	<u>7 x 2 1/2</u>			
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>21</u>	<u>21</u>			
Frames, Size of Angle Iron, single or double	<u>3 1/2</u>	<u>3 1/2</u>	<u>7/8</u>	<u>7/8</u>	
Reversed Iron, to every frame	<u>3 1/2</u>	<u>3 1/2</u>	<u>7/8</u>	<u>7/8</u>	
Keel of Bilge or every other frame	<u>3 1/2</u>	<u>3 1/2</u>	<u>7/8</u>	<u>7/8</u>	
Floors, depth and thickness of Floor Plate at mid line	<u>19</u>	<u>19</u>	<u>5/8</u>	<u>5/8</u>	
" Ditto ditto at Bilge Keelson	<u>10</u>	<u>10</u>	<u>5/8</u>	<u>5/8</u>	
" Size of Reversed Angle Iron, and No. at top of Floor Plate	<u>3</u>	<u>3</u>	<u>7/8</u>	<u>7/8</u>	
Beams, Deck (No. of Beams)	<u>7</u>	<u>7</u>	<u>7/8</u>	<u>7/8</u>	
" <u>double or single Angle Iron</u> , on upper edge	<u>2 1/2</u>	<u>2 1/2</u>	<u>5/8</u>	<u>5/8</u>	
" average space between	<u>42</u>	<u>42</u>			
" Hold, or Lower Deck (No. of Beams)	<u>7</u>	<u>7</u>	<u>7/8</u>	<u>7/8</u>	
" <u>double or single Angle Iron</u> , on upper edge	<u>2 1/2</u>	<u>2 1/2</u>	<u>5/8</u>	<u>5/8</u>	
" average space between	<u>42</u>	<u>42</u>			
" Riddle, spliced and moulded, thickness of Plate size of Angle Iron					
" Engine					
Keelson, single or double plate, box or intercostal	<u>13 1/2</u>	<u>13 1/2</u>	<u>7/8</u>	<u>7/8</u>	
" Size of Plates	<u>4</u>	<u>4</u>	<u>3 1/2</u>	<u>3 1/2</u>	
" Size of Angle Irons	<u>4</u>	<u>4</u>	<u>3 1/2</u>	<u>3 1/2</u>	
" Side, single or double, plate, box or intercostal					
" Bilge (No. of Beams) at each Bilge, single, or double, plate, or box angle	<u>4</u>	<u>4</u>	<u>3 1/2</u>	<u>3 1/2</u>	

Plates in Garboard Strakes, breadth and thickness 20 7/8 20  
 Ditto from Garboard to upper part of Bilges... 10 7/8  
 " from upper part of Bilge to a perpendicular height from upper side of Keel of 3/4ths the entire depth of Hold 10 7/8  
 " from 3/4ths depth of Hold to lower edge of Sheerstrake 10 7/8  
 Sheerstrake, breadth and thickness 20 7/8 20 7/8  
 Butt Straps to outside plating, breadth and thickness 10 7/8 10 7/8  
 Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness 20 7/8 20 7/8  
 Angle Iron on ditto 4 3 1/2 4 3 1/2  
 Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways... 10 5/8 10 5/8  
 Diagonal Tie Plates on ditto... 10 5/8 10 5/8  
 Planksheer, materials and scantlings 10 5/8 10 5/8  
 Waterway ditto ditto 10 5/8 10 5/8  
 Flat of Upper Deck, thickness and material... 3 1/2 Yellow Pine 3 1/2  
 " how fastened to Beams... By bolts and beams  
 Ceiling betwixt Decks and in Hold, thickness and material... 3 1/2 Black Pine 3 1/2  
 Clamps or Spiking 10 5/8 10 5/8  
 Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness 18 1/2 5/8 18 1/2 5/8  
 Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams 10 5/8 10 5/8  
 Stringers in Hold of the angle irons 4 3 1/2 4 3 1/2  
 Flat of Lower Deck, thickness and material... 3 1/2 Yellow Pine 3 1/2  
 Main piece of Rudder, diameter at head 4 1/2 4 1/2  
 " " " at heel 2 1/2 2 1/2  
 (Can the Rudder be unshipped afloat Yes)  
 Bulkheads, No. one Thickness of 1/2  
 " Height up to upper deck 10  
 " how secured to the sides of the ship By bracket knees and single beams  
 " size of vertical angle irons 3 1/2 and their distance apart 30  
 rivetted through plates with (1/2 in.) rivets, about (5 to 6) apart  
 The reverse angle irons on the floors extend in one length across the middle line from in two lengths to the height of upper part of Bilge  
 " " " on the frames " " " from middle line to in two lengths to Gunwale.  
 Keelson, how are the various lengths of plates or angle irons connected? By butt straps double riveted and angle irons shifted  
 Plates, Garboard, double or single rivetted to keel, double or single at upper edge, with rivets (1/2 to 3/4 ins.) diameter, averaging (2 1/2 to 3 ins.) apart.  
 " Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (1/2 in.) diameter, averaging (2 1/2 ins.) apart.  
 " Butts from Keel to turn of bilge, worked carvel with butt straps (3/4 to 7/8) thick, double or single rivetted; with rivets (1/2 in.) diameter, averaging (3 ins.) apart.  
 Do the butt straps lap over and rivet through the lands of the strake below? No  
 " Edges from bilge to sheerstrake, worked carvel with a lining piece ( ) thick, or clencher, double or single rivetted; with rivets (1/2 in.) diameter, averaging (2 1/2 in.) apart.  
 Do the butt straps lap over and rivet through the lands of the strake below? No  
 " Edges of Sheerstrake, double or single rivetted? At upper edge single to iron Redwood Plates At lower edge double  
 " Butts from bilge to planksheers, worked carvel with butt straps (3/4 to 7/8) thick, double or single rivetted; with rivets (1/2 in.) diameter, averaging (3 ins.) apart. Breadth of laps in double rivetting (5 to 6 ins.) Breadth of laps in single rivetting (2 1/2 ins.)  
 Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted? All double  
 Planksheer, how secured to the plating of the sides See sketch on the other side  
 Waterway " " planksheer and to the Beams if necessary.  
 Deck Beams, how secured to the side? By knee plates riveted to bulk-iron beams and riveted to frames.  
 Hold or Lower Deck ditto do do do  
 Paddle " All fore and aft. Pies connected at ends by 10 of breasthooks and crutches  
 What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? Reddolph Hopkins, Balfour, and Kinrossley, Scot.  
 Manufacturer's name or trade mark Reddolph Hopkins, Balfour, and Kinrossley, Scot.  
 We certify that the above is a correct description of the several particulars therein given.  
 Builder's Signature Thomas Vernon Surveyor's Signature J. H. Walker

42282m

Are the lands or laps of the clenchwork in all cases in breadth at least five and a half times the diameters of the rivets in double  
 edges and butts, and at least three and a quarter times the diameter of the rivets where single riveting is admitted? Yes  
 The edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? Yes  
 The fillings between the ribs and plates fill in solid with single pieces? or are they in short lengths of various thicknesses? Solid  
 The holes for rivetting plate to frames, butt straps, 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 and in Butts only

Her Masts, Bowsprit, Yards, &c., are in Good condition, and sufficient in size and length. (If they are of Iron or Steel give the  
 Scantlings of Plating, Angle Irons, &c., and further explain by a Sketch showing how the lower Masts and Bowsprit are constructed, showing  
 the number of Plates and Angle Irons, mode of rivetting, quality of Materials, and if stamped with Maker's name.



The fore main masts and bowsprit of iron. The plates in the sound double riveted  
 in Butts and edges. Plates in fore main and Mizzen  $\frac{3}{8}$ " and  $\frac{5}{16}$ " at Head. Bowsprit  $\frac{3}{8}$ "  
 three angle-iron in each of  $5 \times 5 \times \frac{5}{8}$ " angle-iron in Mizzen  $5 \times 2 \frac{1}{2} \times \frac{5}{8}$ ".  
 Three lower yards of iron double riveted in Butts and single in edges lapped edge  
 flush joints, plates  $\frac{3}{8}$ " reduced to  $\frac{1}{4}$ " at ends. Same as stated in Report all other spars  
 and good. Angle irons in Yards  $2 \frac{1}{2} \times 2 \frac{1}{2} \times \frac{5}{8}$ " and  $3 \frac{1}{2} \times 3 \frac{1}{2} \times \frac{5}{8}$ " in each.

She has SAILS.

CABLES, &c.

ANCHORS, and their weights.

		Fathoms.	Inches.	Tested to Tons.		No.	Weight Ex. Stock	Test
Fore Sails,	Chain <u>Public</u> <u>Public</u> <u>Public</u> <u>Public</u>	270	1 $\frac{7}{8}$	37.4.0	Bowers,	1	18.0.13	19
Fore Top Sails,	Chain <u>Public</u> <u>Public</u> <u>Public</u> <u>Public</u>	90	$\frac{3}{8}$			1	18.0.5	19
Fore Topmast Stay Sails,	Hawser	90	8 $\frac{1}{2}$			1	15.2.17	17
Main Sails,	Towlines	90	6 $\frac{1}{2}$		Stream,	1	8.2.18	
Main Top Sails,	Warp	90	5 $\frac{1}{2}$		Kedges,	1	4.0.0	
	All of <u>Good</u> quality.					1	2.0.26	

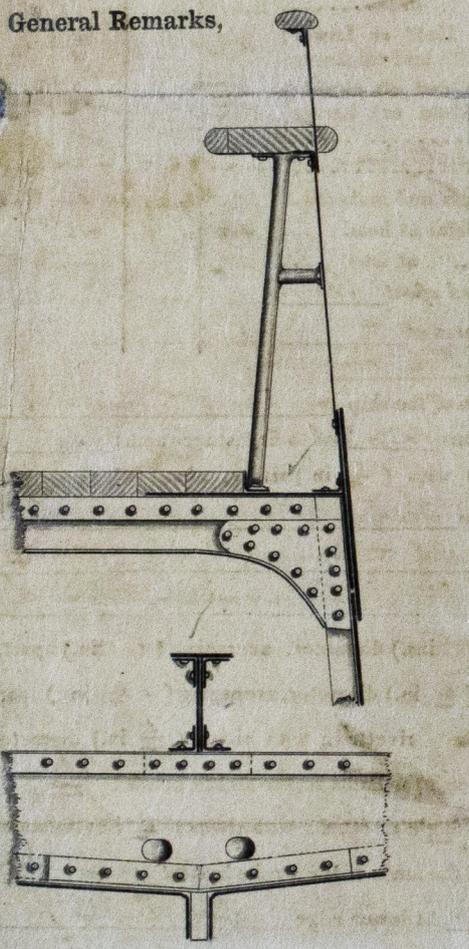
Her Standing and Running Rigging of fine and best sufficient in size and Good in quality.

She has one Long Boat and two others

The present state of the Windlass is Good Capstans iron and Rudder Good Pumps iron and good  
English Pat. two in two. Head Pump and three in fore for

Order for Special Survey No. 351 DATES of Surveys held while building as per Section 18.  
 1st. On the several parts of the frame, when in place, and before the plating was wrought Under Spec  
 2nd. On the plating during the progress of rivetting Survey  
 3rd. When the beams were in and fastened, and before the decks were laid whole ten  
 4th. When the ship was complete, and before the plating was finally coated of Builders  
 5th. After the ship was launched 3. 8 above sea

State if she has a Spar Deck No Long Rises Quarter Deck Forecastle Monkey 3. 8 above sea



This vessel is well built and fitted with Monkey  
 fore-castle and raised Quarter Deck about thirty  
 five feet in length. Beams of raised Deck made  
 of built-iron as in the main body of vessel.  
 Plating of Deck 3<sup>rd</sup> Yellow Pine and stringers in  
 ends of Beams  $18 \frac{3}{4} \times \frac{5}{16}$ "

The sheer strake double with plate  
 of  $\frac{5}{16}$ " for eighty-seven feet amidships, and  
 otherwise in accordance with the Rule and  
 Grade A.

A. H. Warner.

In what manner are the surfaces preserved from oxidation? Inside By Paint and Portland Cement in Bottom  
 Ditto ditto Outside Paint

I am of opinion this Vessel should be Classed A 1.

The amount of the Fee £ 5 : : : is received by me,  
 Special £ 29 : 13 : 21/8/60 Warner  
 Certificate (if required) £ Sealed

Committee's Minute Liverpool 22<sup>nd</sup> August, 1865.

Character assigned A 1 Built under Special Survey  
(A.T.O.P.)

