

# IRON SHIPS.

No. 9642 Survey held at Sunderland Date June 25<sup>th</sup> 1869  
 on the Iron Ship "Tangstone" Master Jumbrell  
 Tonnage under tonnage deck 698.97 Built at Sunderland When built 1869 Launched June 10<sup>th</sup> 1869  
 Ditto of quarter deck 32.38 By whom built Wm. Pile & Co Owners Henry Ellis  
 Ditto of ~~poop, forecastle, or~~ other erections on upper deck 16.70 Port belonging to London Destined Voyage India  
 Ditto of spar deck 746.25 If Surveyed while Building, Afloat, or in Dry Dock While Building  
 Gross tonnage, 746.25  
 Total Register tonnage, 746.25  
 as cut on beam

Length aloft		Extreme Breadth		Depth from top of Upper Deck Beam to top of Floor		Power of Engines		N <sup>o</sup> . of Decks	
Feet.	Inches.	Feet.	Inches.	Feet.	Inches.	Horse.			
180	-	31	2	19	9			One	
(Dimensions of Ship per Register, length <u>186.4</u> breadth <u>31.2</u> depth <u>19.65</u> )									
Keel, if bar iron, depth and thickness		Inches in Ship.		Inches required per Rule.		Plates in Garboard Strakes, breadth and thickness		Inches required per Rule.	
" if plate iron, breadth and thickness		<u>2 1/2 x 8</u>		<u>2 3/4 x 7 1/4</u>		<u>21</u>		<u>33</u>	
Stem, if bar iron, moulding and thickness		<u>2 1/2 x 8</u>		<u>2 3/4 x 7</u>		Ditto from Garboard to upper part of Bilges		<u>10</u>	
" if plate iron, breadth and thickness		<u>2 1/2 x 8</u>		<u>2 3/4 x 7</u>		" from upper part of Bilge to a perpendicular height from upper side of Keel of 1/3 the entire depth of Hold		<u>9</u>	
Stern-post, if bar iron, moulding and thickness		<u>2 1/2 x 8</u>		<u>2 3/4 x 7</u>		" from 1/3 the depth of Hold to lower edge of Sheerstrake		<u>8</u>	
" if plate iron, breadth and thickness		<u>2 1/2 x 8</u>		<u>2 3/4 x 7</u>		" Sheerstrake, breadth and thickness		<u>36</u>	
Distance of Frames from moulding edge to moulding edge, all fore and aft		<u>23</u>		<u>23</u>		Butt Straps to outside plating, breadth and thickness		<u>10 1/2 x 16</u>	
Frames, Size of Angle Iron, single or double		<u>4</u>		<u>3</u>		Gunwale Plate or Stringer on ends of Upper Deck Beams, breadth and thickness		<u>20</u>	
" Reversed Iron, 1/2 to every frame		<u>3</u>		<u>2 3/4</u>		Angle Iron on ditto		<u>4 1/2 x 3 1/2 x 7</u>	
" " to every alternate frame		<u>3</u>		<u>2 3/4</u>		Stringer or Tie Plates fore and aft, on Upper Deck Beams, outside Hatchways		<u>11 1/2</u>	
Floors, depth and thickness of Floor Plate at mid line		<u>21</u>		<u>8</u>		Diagonal Tie Plates on ditto		<u>11 1/2</u>	
" Ditto ditto at Bilge Keelson		<u>8</u>		<u>8</u>		Planksheer, materials and scantlings		<u>Gutter female</u>	
" Size of Reversed Angle Iron, and No. Angles at top of Floor Plate		<u>3</u>		<u>2 3/4</u>		Waterway ditto ditto		<u>3 1/2</u>	
Beams, Deck (N <sup>o</sup> . <u>46</u> ) double Angle Iron, Plate, Tee, or Bulb Iron		<u>4 1/2</u>		<u>7</u>		Flat of Upper Deck, thickness and material		<u>3 1/2</u>	
" " double or single Angle Iron, on upper edge		<u>3</u>		<u>3</u>		" " how fastened to Beams		<u>Iron nut and screw bolt</u>	
" " average space between		<u>Alternate frames</u>		<u>alternate</u>		Ceiling betwixt Decks and in Hold, thickness and material		<u>2 1/2</u>	
" Hold, or Lower Deck (N <sup>o</sup> . <u>44</u> ) double Angle, Tee, Plate, or Bulb Iron		<u>7 1/2</u>		<u>7</u>		Clamps or Spircketting ditto		<u>Nie</u>	
" " double or single Angle Iron on upper edge		<u>3</u>		<u>3</u>		Stringer Plates on ends of Hold or Lower Deck Beams, breadth and thickness		<u>19 1/2</u>	
" " average space between		<u>Alternate frames</u>		<u>alternate</u>		Stringer or Tie Plates fore and aft outside Hatchways, on Hold or Lower Deck Beams at mid line		<u>4 1/2 x 3 1/2 x 7</u>	
" Paddle, sided and moulded, thickness of Plate size of Angle Iron		<u>Nie</u>		<u>Nie</u>		Stringers in Hold		<u>4 1/2 x 3 1/2 x 7</u>	
" Engine " " " "		<u>Nie</u>		<u>Nie</u>		Flat of Lower Deck, thickness and material		<u>2 1/2</u>	
Keelson, single or double plate, box, or intercostal		<u>25 1/2</u>		<u>9</u>		Main piece of Rudder, diameter at head		<u>5</u>	
" Size of Plates		<u>7 1/2</u>		<u>7</u>		" " at heel		<u>3</u>	
" Size of Angle Irons		<u>4</u>		<u>3 1/2</u>		(Can the Rudder be unshipped afloat)		<u>Yes</u>	
" Side, single or double, plate, box, or intercostal		<u>Nie</u>		<u>Nie</u>		Bulkheads, N <sup>o</sup> . <u>One</u> Thickness of		<u>6/16</u>	
" Bilge (N <sup>o</sup> . <u>one</u> ) at each Bilge, single, or double, plate, or box		<u>4 1/2</u>		<u>3 1/2</u>		" Height up upper Deck		<u>Nie</u>	
Transoms, material <u>Iron</u> or, if none, in what manner compensated for.		<u>Iron</u>		<u>Iron</u>		" how secured to the sides of the ship		<u>between double frames</u>	
Knight-heads, and Hawse Timbers		<u>Iron</u>		<u>Iron</u>		" size of vertical angle irons		<u>3 x 2 1/4 x 6</u>	
The Frames extend in one length from <u>Keel</u> to <u>funnels</u>		<u>Keel</u>		<u>funnels</u>		" and their distance apart		<u>2/6</u>	
The reverse angle irons on the floors extend in one length across the middle line from <u>Keelson</u> to <u>hold beams</u>		<u>Keelson</u>		<u>hold beams</u>		rivetted through plates with (1/4 in.) rivets, about (6 in.) apart.			
" angle iron " on the frames " and " from thence to funnels on alternate frames		<u>angle iron</u>		<u>and</u>		The reverse angle irons on the floors extend in one length across the middle line from <u>Keelson</u> to <u>hold beams</u>		<u>Stringer</u>	
Keelson, how are the various lengths of plates or angle irons connected?		<u>angle irons and butt straps</u>		<u>angle irons and butt straps</u>					
Plates, Garboard, double or rivetted to keel, double or at upper edge, with rivets (1 1/2 in.) diameter, averaging (4 1/2 in.) apart.		<u>double</u>		<u>double</u>					
" Edges from Garboards to upper part of bilge, worked clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 in.) apart.		<u>double</u>		<u>double</u>					
" Butts from Keel to turn of bilge, worked carvel with butt straps (10 1/2 in.) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (4 1/2 in.) apart.		<u>double</u>		<u>double</u>					
" Edges from bilge to sheerstrake, worked carvel with a lining piece ( ) thick, or clencher, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 in.) apart.		<u>double</u>		<u>double</u>					
" Edges of Sheerstrake, double or single rivetted? At upper edge <u>and</u> At lower edge <u>double</u>		<u>double</u>		<u>double</u>					
" Butts from bilge to planksheers, worked carvel with butt straps (8 9/10 in.) thick, double or single rivetted; with rivets (3/4 in.) diameter, averaging (3 in.) apart. Breadth of laps in double rivetting (4 1/2 to 5) Breadth of laps in single rivetting (Nie)		<u>double</u>		<u>double</u>					
Butt Straps of Keelsons, Stringer and Tie Plates, double or single rivetted?		<u>double</u>		<u>double</u>					
Planksheer, how secured to the plating of the sides		<u>Explain by sketch</u>		<u>Gutter female</u>					
Waterway " " planksheer and to the Beams		<u>if necessary.</u>		<u>Gutter female</u>					
Deck Beams, how secured to the side?		<u>ends turned down and rivetted to frames</u>		<u>ends turned down and rivetted to frames</u>					
Hold or Lower Deck ditto		<u>Do</u>		<u>Do</u>					
Paddle " "		<u>Nie</u>		<u>Nie</u>					
What description of Iron is used for the Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.?		<u>Iron</u>		<u>Iron</u>					
Manufacturer's name or trade mark		<u>Bulls and Angles, Hopkins, Filter and Co</u>		<u>Plates, Harthpool, Malleable Iron Co.</u>					
We certify that the above is a correct description of the several particulars therein given.									
Builder's Signature		<u>Wm. Pile &amp; Co</u>		<u>Surveyor's Signature</u>		<u>Joseph Pile</u>			

IRON 444-0242

7195 Lm

**Workmanship.** Are the lands or laps of the clenchwork in all cases in breadth at least five and a half times the diameter of the rivets in double rivetted edges and butts, and at least three and a quarter 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? Single pieces  
Do 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? a few

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.)

Please see Sketch appended M.

will  
be  
found  
in  
the  
Sketch

No.	She has SAILS.	CABLES, &c.	Fathoms.	Inches.	Test as per Certificate.	In. req'd per Rule.	Test req'd per Rule.	ANCHORS, &c.	No.	Weight. Ex. Stock.	Test as per Certificate.	Wt. req'd per Rule.	Test req'd per Rule.
	Fore Sails,	Chain .....	300	1 9/16	44	1 9/16	44	Bowers .....	3	23-2-26	23-13-30	23-2-0	23 5/10
	Fore Top Sails,									23-2-7	23-10-32	23-2-0	23 7/10
	Fore Topmast Stay Sails	Hempen Stream Cable	85	10 1/2						20-2-14	21-5-32	19-3-25	20 4/10
	Main Sails,	Hawser ... <u>chain</u> ...	60	7 7/8				Stream .....	1	10-3-0		10-0-0	
	Main Top Sails,	Towlines .....	85	8 1/2									
	and	Warp .....	85	6 3/4				Kedges .....	2	5-2-14		5-0-0	
		All of <u>good</u> quality.								2-2-21		2-2-0	

Her Standing and Running Rigging are sufficient in size and good in quality.  
She has one Life Line Long Boat and two others (4 in all.)  
The present state of the Windlass is Good Capstan fit and Rudder good Pumps 4 of Metal

Order for Special Survey	DATES of	1st.	On the several parts of the frame, when in place, and before the plating was wrought	<u>Built under 2nd</u>
No. <u>2199</u>	the	2nd.	On the plating during the progress of rivetting	<u>and surveyed 1869 Oct</u>
Date <u>April 8th 1869</u>	while building	3rd.	When the beams were in and fastened, and before the decks were laid	<u>8-12-16-20-24-27-30-34-37-40</u>
Order for Ordinary Survey	as per	4th.	When the ship was complete, and before the plating was finally coated	<u>11-14-17-21-25-28-31-34-37-40</u>
No. <u>---</u>	Section 18.	5th.	After the ship was launched	<u>5-9-16-18-22-24-25</u>
Date <u>---</u>				

State if she has a Spar Deck No Poop Raised Deck or Forecastle Monkey or Anchor

General Remarks, This Vessel has been built under a Roof complying with Section 52.

The Keel, Stem, and Stern Post are not of the same dimensions as set forth in the Rules but it will be observed that the Sectional area of those at the Ship are slightly in excess

The angle irons to middle line Keelson come under the same conditions as the above. Viz.

Sectional area of Keel, $\frac{49}{16} \times \frac{11}{16} \times \frac{11}{16} =$	<u>at ship</u>	<u>as Rule</u>
<u>Do Angles to Middle line Keelson, two <math>\frac{7}{16} \times \frac{9}{16} \times 2</math> and <math>\frac{8}{16} \times \frac{8}{16} \times 2 =</math></u>	<u>320</u>	<u>319</u>
Sectional area of the two angle irons that form the Bilge Keelson $\frac{8}{16} \times \frac{9}{16} \times 2$ and $\frac{8}{16} \times \frac{8}{16} \times 2 =$	<u>142 1/2</u>	<u>136</u>
Sectional area of the Stringer plate on ends of Hold Beams $\frac{19}{16} \times \frac{1}{2} \times 8$ and $\frac{18}{16} \times \frac{3}{4} \times 9 =$	<u>144</u>	<u>136</u>
<u>Do Do on upper Deck Beams <math>\frac{28}{16} \times \frac{8}{16} \times 25 \times 9 =</math></u>	<u>156</u>	<u>168 3/4</u>
<u>Do Do on upper Deck Beams <math>\frac{28}{16} \times \frac{8}{16} \times 25 \times 9 =</math></u>	<u>224</u>	<u>225</u>
<u>Total</u>	<u>986 1/2</u>	<u>984 3/4</u>

Testing Certificates have been produced, issued from the Sunderland testing house, for Anchors and Chains, signed by John Hartnups Esq.

In what manner are the surfaces preserved from oxidation? Inside Cement up to the bilges, and paint above  
Ditto ditto Outside Composition paint on Bottom, paint above

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

The amount of the Fee .....£ 5 : : : is received by me,  
John W. M. Special .....£ 37 : 6 : :  
Certificate (if required) .....£ : : : :  
Committee's Minute 2nd July 1869

Character assigned A

Joseph M. M.  
Senhouse Maxtedale Iron Works  
\* Should the Committee deem the above as a Compensation for the deficiency in the Hold Beam Stringer plate.  
I am of opinion this is a fair compensation for the deficiency in the Hold Beam Stringer plate.  
to class as above recommended