

# IRON SHIP.

No. 3406 Survey held at White Date, First Survey 13th July 1874 Last Survey 27th Aug 1875  
 On the S.S. "Brig Arthur" Yard Number 10 Master J. Smiles

TONNAGE under Deck 809.88  
 Ditto of Third, Spar, or Awning Deck. 85.98  
 Ditto of Poop, or Raised Qr. Dk. 80.18  
 Ditto of Houses on Deck 2.02  
 Ditto of Forecastle 28.65  
 Gross Tonnage 1006.61  
 Less Crew Space 48.86  
 Less Engine Room 322.13  
 Register Tonnage as cut on Beam 635.63

ONE, OR TWO DECKED, THREE DECKED VESSEL.  
 SPAR, OR AWNING-DECKED VESSEL.  
 HALF BREADTH (moulded) 14.11 1/2  
 DEPTH from upper part of Keel to top of Upper Deck Beams 10.0  
 GIRTH of Half Midship Frame (as per Rule) 30.1  
 1st NUMBER 63.8 1/2  
 1st NUMBER, if a THREE-DECKED VESSEL deduct 7 feet 223-1  
 LENGTH 142.01  
 2nd NUMBER Under 8  
 PROPORTIONS—Breadths to Length Under 12  
 Depths to Length—Upper Deck to Keel Under 12  
 Main Deck ditto Under 12

Built at White  
 When built 1874 Launched 23rd Dec 1874  
 By whom built Turnbull & Son  
 Owners Thos Turnbull & Co  
 Port belonging to White  
 Destined Voyage Mediterranean  
 If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule 223 Feet. 1 Inches. BREADTH—Moulded 29 Feet. 11 Inches. DEPTH top of Floors to Upper Deck Beams 19 Feet. 1 1/2 Inches. Do. do. Main Deck Beams 19 Feet. 1 1/2 Inches. Power of Engines 99 Horse. N° of Decks with flat laid One N° of Tiers of Beams Two

Dimensions of Ship per Register, length, <u>223</u> breadth, <u>30-0</u> depth, <u>17-1</u>	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	<u>8 x 2 3/8</u>	<u>8 x 2 3/8</u>	STEM, moulding and thickness	<u>8 x 2 3/8</u>	<u>8 x 2 3/8</u>	STERN-POST for Rudder do. do.	<u>8 x 4 3/8</u>	<u>8 x 4 3/8</u>	for Propeller	<u>8 x 4 3/8</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>23</u>	<u>23</u>	FRAMES, Angle Iron, for 1/2 length amidships	<u>4</u>	<u>4</u>	Do. for 1/2 at each end	<u>4</u>	<u>4</u>	REVERSED FRAMES, Angle Iron	<u>3</u>
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	<u>18 1/2</u>	<u>18 1/2</u>	thickness at the ends of vessel	<u>18 1/2</u>	<u>18 1/2</u>	depth at 1/2 the half-bdth. as per Rule	<u>18 1/2</u>	<u>18 1/2</u>	height extended at the Bilges	<u>87</u>
BEAMS, Upper, Spar, or Awning Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	<u>2 1/2</u>	<u>2 1/2</u>	Single or double Angle Iron on Upper edge	<u>2 1/2</u>	<u>2 1/2</u>	Average space	<u>46</u>	<u>46</u>	BEAMS, Main or Middle Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	<u>2 1/2</u>
Single or double Angle Iron, on Upper Edge	<u>2 1/2</u>	<u>2 1/2</u>	Average space	<u>46</u>	<u>46</u>	BEAMS, Lower Deck, Hold or Orlop Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	<u>2 1/2</u>	<u>2 1/2</u>	Single or double Angle Iron on Upper Edge	<u>2 1/2</u>
Average space	<u>46</u>	<u>46</u>	KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates	<u>14</u>	<u>14</u>	Rider Plate	<u>8</u>	<u>8</u>	Bulb Plate to Intercoastal Keelson	<u>5</u>
Angle Irons	<u>5</u>	<u>5</u>	Double Angle Iron Side Keelson	<u>5</u>	<u>5</u>	Side Intercoastal Plate	<u>5</u>	<u>5</u>	do. Angle Irons	<u>5</u>
Attached to outside plating with angle iron	<u>5</u>	<u>5</u>	BILGE Angle Irons	<u>5</u>	<u>5</u>	do. Bulb Iron	<u>7</u>	<u>7</u>	do. Intercoastal plates riveted to plating for length	<u>5</u>
BILGE STRINGER Angle Irons	<u>5</u>	<u>5</u>	Intercoastal plates riveted to plating for length	<u>5</u>	<u>5</u>	SIDE STRINGER Angle Irons	<u>5</u>	<u>5</u>	Transoms, material. Knight-heads. Hawse Timbers.	<u>Plates</u>
Windlass	<u>Emerson</u>	<u>Emerson</u>	Pall Bitt	<u>Emerson</u>	<u>Emerson</u>	FRAME extend in one length from	<u>Keel</u>	<u>Keel</u>	to Gunwale	<u>Gunwale</u>
Reversed Angle Irons on floors and frames extend	<u>Reversed</u>	<u>Reversed</u>	middle line to	<u>some hold beam stringer</u>	<u>some hold beam stringer</u>	and to	<u>gunwale</u>	<u>gunwale</u>	alternately	<u>alternately</u>
KEELSONS. Are the various lengths of Plates and Angle Irons properly connected?	<u>yes</u>	<u>yes</u>	And butts properly shifted?	<u>yes</u>	<u>yes</u>	PLATING. Garboard, double riveted to Keel, with rivets	<u>1</u>	<u>1</u>	in. diameter, averaging	<u>5</u>
Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets	<u>3/4</u>	<u>3/4</u>	in. diameter, averaging	<u>3 3/8</u>	<u>3 3/8</u>	Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets	<u>3/4</u>	<u>3/4</u>	in. diameter averaging	<u>3 3/8</u>
Butts of Two Strakes at Bilge for Half length, treble riveted with Butt Straps	<u>4/6</u>	<u>4/6</u>	thicker than the plates they connect.	<u>4/6</u>	<u>4/6</u>	Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets	<u>3/4</u>	<u>3/4</u>	in. diameter, averaging	<u>3 3/8</u>
Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets	<u>3/4</u>	<u>3/4</u>	in. diameter, averaging	<u>3 3/8</u>	<u>3 3/8</u>	Edges of Main Sheerstrake, double or single riveted.	<u>Upper Sheerstrake, double or single riveted.</u>	<u>Upper Sheerstrake, double or single riveted.</u>	Butts of Upper or Spar Sheerstrake, treble riveted	<u>length amidships.</u>
Butts of Main Stringer Plate, treble riveted for Half length amidships.	<u>length amidships.</u>	<u>length amidships.</u>	Butts of Upper or Spar Stringer Plate, treble riveted for	<u>length.</u>	<u>length.</u>	Breadth of laps of plating in double riveting	<u>4 3/4</u>	<u>4 3/4</u>	Breadth of laps of plating in single riveting	<u>2 3/4</u>
Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted?	<u>Double &amp; Treble</u>	<u>Double &amp; Treble</u>	Waterway, how secured to Beams	<u>(Explain by Sketch, if necessary.)</u>	<u>(Explain by Sketch, if necessary.)</u>	Beams of the various Decks, how secured to the sides?	<u>Ends turned &amp; pieces bedded</u>	<u>Ends turned &amp; pieces bedded</u>	No. of Breasthooks, Pine	<u>Crutches, Two.</u>
What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.?	<u>Good</u>	<u>Good</u>	Manufacturer's name or trade mark,	<u>Stockton Co. Pa.</u>	<u>Stockton Co. Pa.</u>	The above is a correct description.	<u>Thomas Turnbull &amp; Co</u>	<u>Thomas Turnbull &amp; Co</u>	Surveyor's Signature,	<u>L. P. Gladstone</u>

IRON 460-0143



See Certificate Letter Dated 1st May 1874. Super. Vessel to S.S. "The Gales" Report No. 3378

**Workmanship.** Are the butts of plating planed or otherwise fitted? *Planed*  
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*  
Are the fillings between the ribs and plates solid single pieces? *Solid*  
Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *Yes*  
Are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *Yes*  
Do any rivets break into or through the seams or butts of the plating? *A few in butts.*

13902 Iron

Masts, ~~Bowsprit~~, Yards, &c., are *all of Pine* in *good* condition, and sufficient in size and length. If of Iron or Steel give 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 riveting, quality of Materials, and if stamped with Maker's name.  
State also Length and Diameter of Lower Masts and Bowsprit *Main Mast 68ft x 18" Fore Mast 60ft x 18"*

NUMBER for EQUIPMENT <i>15621</i>		Fathoms.	Inches.	Test per Certificate.	Lngh. & Size req'd pr Rule.	Test req'd per Rule.	ANCHORS, &c.	N <sup>o</sup> .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
SAILS.	CABLES, &c.	<i>240</i>	<i>1 1/16</i>	<i>40-10-00</i>	<i>240 fms. 1 1/16</i>	<i>40-10-00</i>	Bowers ...	<i>3</i>	<i>21-2-0</i>	<i>22-0-0-0</i>	<i>21-0-5</i>	<i>21-12-0-0</i>
	Chain ...	<i>at Sunderland</i>	<i>25th November 1874</i>				(State Machine where Tested, Date, and name of Superintendent.)	<i>Tested at Sunderland Sept. 21- Oct. 30, Nov 30-1874</i>	<i>21-1-0</i>	<i>21-16-1-0</i>	<i>21-0-0</i>	<i>21-12-0-0</i>
	Fore Sails,	<i>160</i>	<i>7/8</i>	<i>✓</i>					<i>8-0-14</i>	<i>19-2-0-21</i>	<i>17-3-11</i>	<i>8-10-0-0</i>
	Fore Top Sails,	<i>80</i>	<i>1 1/2</i>	<i>✓</i>								
	Fore Topmast Stay Sails	<i>80</i>	<i>2 1/2</i>	<i>✓</i>								
	Main Sails,	<i>160</i>	<i>1 1/2</i>	<i>✓</i>			Stream ...	<i>1</i>	<i>9-0-26</i>		<i>9-0-0</i>	
Main Top Sails,	Hawser ...	<i>80</i>	<i>1 1/2</i>	<i>✓</i>			Kedges ...	<i>2</i>	<i>4-1-21</i>	<i>✓</i>	<i>4-2-0</i>	
	Towlines ...	<i>80</i>	<i>2 1/2</i>	<i>✓</i>					<i>2-0-24</i>	<i>✓</i>	<i>2-1-0</i>	
and quality <i>good</i>		<i>160</i>	<i>1 1/2</i>	<i>✓</i>								

Standing and Running Rigging *Wire & Hemp* sufficient in size and *good* in quality. She has *three* Long Boats and *good*  
The Windlass is *good* Capstan *2 of Iron* and Rudder *good* Pumps *two of 6 in Metal*  
Engine Room Skylights. How constructed? *3 in Pine 14 leaning to 6 by 6* How secured in ordinary weather? *13 all eyes*  
What arrangements for deadlights in bad weather? *Bulldozers*  
Coal Bunker Openings. How constructed? *Iron lappings* How are lids secured? *Bars* Height above deck? *10 inches*  
Scuppers, &c. What arrangements for clearing upper deck of water, in case of shipping a sea? *Ports & Scuppers*

Cargo Hatchways. How formed? *1/16 Plate*  
State size Main Hatch *22ft 10 x 10ft. Laming 36* Forehatch *11ft 6 x 0ft. Laming 36* Quarterhatch *19ft 4 x 10ft. Laming 20 in*  
If of extraordinary size, state how framed and secured? *None*  
What arrangement for shifting beams? *1/16 Plate in Centre the whole depth of Laming. Double Angles on bot edges*  
Hatches, If strong and efficient? *Strong & efficient*

Order for Special Survey No. <i>487</i>	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	<i>Special Survey Date of Survey 1874 July 15-22</i>
Date <i>10th May 1874</i>		2nd. On the plating during the process of riveting	<i>Aug 4-13-27 Sept 8-16-24 Oct 7-21 Nov 12-23</i>
Order for Ordinary Survey No.		3rd. When the beams were in and fastened, and before the decks were laid...	<i>Dec 11. 1873 Jan 19. 26. 27.</i>
Date		4th. When the ship was complete, and before the plating was finally coated or cemented...	
No. <i>40</i> in builder's yard.		5th. After the ship was launched and equipped	

**General Remarks,** *Workmanship & Material good*  
*Is fitted with Raised Quarter Deck frames all to the bot height. Beams of 6 1/2 x 6 1/16 bulb plates Double angles on bot edges 2 1/2 x 2 1/2 x 5/16. Stringer plates on end of beams 4 1/2 x 8 1/16. Angles on so. 4 x 3 1/2 x 6 1/16. Tie plates 10 x 8 1/16. Plating outside 8 1/16 - 7 1/16 x 6 1/16. Deck 3 1/2 in Pine.*  
*Forecastle frames all to the bot height. beams of single angles 5 x 3 1/2 x 7 1/16. Three of bulb plates 7 x 7 1/16. Double angles on bot edges 2 1/2 x 2 1/2 x 5/16. Stringer plates on end 2 1/2 x 5/16. Angles on so. 3 x 3 x 6 1/16. Tie plates 7 x 5 1/16. Plating outside 5 1/16. Waterway 4 x 4 in Pine. Deck 3 in Pine.*  
*Water ballast tanks in fore & after hold, frames in connection made with three plates, side plates 7 1/16. Angles on so. 3 1/2 x 3 1/2 x 8 1/16. web plates 4 1/16. Angles on so. 2 1/2 x 2 1/2 x 5/16. Top plating 8 1/16. Additional strengthening at break of raised deck sheers trapes built with 8 1/16 plate for 20 ft. Main deck beam stringer plates extend 4 frame spaces abaft break. Raised deck so. 4 frame spaces before bulk of shell plating keble riveted in neighbourhood of break, hold beam stringers worked about 16 ft.*

State if one, two or three decked vessel, or if spar or awning decked, and lengths of poop, forecabin or raised quarter deck, or of double or part double bottom.  
How are the surfaces preserved from oxidation? Inside *Plat cemented with Portland cement* Outside *other parts with paint & black*

I am of opinion this Vessel should be Classed *90 A1*  
The amount of the Entry Fee ... £ *5 : 0 : 0* is received by me, *Thomas Turnbull & Co*  
Special ... £ *47 : 17 : 0* *3/2/75 1875*  
Certificate ...  
(Travelling Expenses) (if any) £ *5-0-0*  
Committee's Minute *5th February 1875*  
Character assigned *90 A1*  
*See spec ph double bottom*  
*This vessel appears to be eligible to be classed 90 A1 as recommended by the Committee*  
*Lloyd's Register Foundation*  
*4/2/75*