

## IRON SHIP.

1650

No 27/6/76

1876

No. 3652 Survey held at *West Hartlepool* Date, First Survey *24 November 1876* Last Survey *21 June*  
 On the *SS "Malaga"* Master *Russell*  
 Tonnage under Tonnage Deck *960.59* ONE, OR TWO DECKED, THREE DECKED VESSEL.  
 Ditto of Third, *458.92* SPAR, OR AWNING DECKED VESSEL.  
 or Awning Deck. *14128.5/5* HALF BREADTH (moulded) *15-11* Feet.  
 Ditto of Poop, or Raised Qr. Dk. *68.25* DEPTH from upper part of Keel to top of Upper Deck Beams *25-11/2*  
 Ditto of Houses on Deck *39.61* GIRTH of Half Midship Frame (as per Rule) *36-7/2*  
 Ditto of Forecastle *39.61* 1st NUMBER *77.8*  
 Gross Tonnage *1614.12* 1st NUMBER, if a THREE-DECKED VESSEL [deduct 7 feet *70-00*  
 Less Crew Space *74.01* LENGTH *256-1*  
 Less Engine Room *516.52* 2nd NUMBER *18094*  
 Register Tonnage as cut on Beam *1028.59* PROPORTIONS—Breadths to Length *within 8/4*  
 Depths to Length—Upper Deck to Keel *within 10/4*  
 Main Deck ditto *within 14/4*

Built at *West Hartlepool* When built *1876* Launched *26 April*  
 By whom built *W Gray & Co* Owners *John Hall & Co*  
 Port belonging to *London* Destined Voyage *badiz*  
 If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule *256* Feet. Inches. *1* BREADTH—Moulded... *31* Feet. Inches. *10 1/2* DEPTH top of Floors to Upper Deck Beams *25* Feet. Inches. *4* Power of Engines *140* Horse. No. of Decks with flat laid *Three* No. of Tiers of Beams *Three*

Dimensions of Ship per Register, length, *257-3* breadth, *32-1* depth, *23-6*

	Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	<i>9 x 2 1/2</i>	<i>9 x 2 1/2</i>	FLAT KEEL PLATES, breadth and thickness	<i>36</i>	<i>11/16</i>
STERN POST, moulding and thickness	<i>9 x 2 1/2</i>	<i>8 1/2 x 2 1/2</i>	PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied <i>10 x 10/16</i>	<i>36</i>	<i>11/16</i>
STERN POST for Rudder do. do.	<i>10 x 4 1/2</i>	<i>8 1/2 x 5</i>	fm up. part of Bilge to Ir. edge of Sh'rstrake	<i>10/16</i>	<i>10/16</i>
for Propeller	<i>10 x 4 1/2</i>	<i>8 1/2 x 5</i>	Main Sheerstrake, breadth and thickness of doubling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake.	<i>10/16</i>	<i>10/16</i>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<i>24</i>	<i>24</i>	Up. or Spar Dk Sh'rstrake, brdth & thickness	<i>40</i>	<i>12/16</i>
FRAMES, Angle Iron, for 3/4 length amidships	<i>4 1/2 x 3</i>	<i>4 1/2 x 3</i>	Butt Straps to outside plating, breadth & thickness	<i>11 1/4 x 7/16</i>	<i>11 1/4 x 7/16</i>
Do. for 1/2 at each end	<i>4 1/2 x 3</i>	<i>4 1/2 x 3</i>	Lengths of Plating	<i>10 1/2</i>	<i>10 1/2</i>
REVERSED FRAMES, Angle Iron	<i>3 x 3</i>	<i>3 x 3</i>	Shifts of Plating, and Stringers	<i>40</i>	<i>40</i>
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	<i>2 1/2 x 7/16</i>	<i>2 1/2 x 7/16</i>	Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	<i>58 x 9/16</i>	<i>58 x 9/16</i>
thickness at the ends of vessel	<i>2 1/2</i>	<i>2 1/2</i>	Angle Iron on ditto	<i>4 x 4 x 9/16</i>	<i>4 x 4 x 9/16</i>
depth at 3/4 the half-bdth. as per Rule	<i>13</i>	<i>11</i>	Tie Plates fore and aft, outside Hatchways	<i>13</i>	<i>9/16</i>
height extended at the Bilges	<i>40</i>	<i>43</i>	Diagonal Tie Plates on Beams No. of Pairs	<i>13</i>	<i>9/16</i>
BEAMS, Upper, Spar, or Awning Deck	<i>7 x 7/16</i>	<i>7 x 7/16</i>	Plankshoe material and scantling		
Single or double Ang. Iron, Plate or Tee Bulb Iron	<i>2 1/2 x 2 1/2</i>	<i>2 1/2 x 2 1/2</i>	Waterways do. do.	<i>4 x 4</i>	<i>4</i>
Single or double Angle Iron on Upper edge	<i>2 1/2 x 2 1/2</i>	<i>2 1/2 x 2 1/2</i>	Flat of Upper Deck do. do.	<i>4 x 4</i>	<i>4</i>
Average space	<i>40</i>	<i>40</i>	How fastened to Beams	<i>4 x 4</i>	<i>4 x 4</i>
BEAMS, Main, or Middle Deck	<i>7 1/2 x 7/16</i>	<i>7 1/2 x 7/16</i>	Stringer Plate on ends of Main or Middle Deck	<i>58 x 9/16</i>	<i>58 x 9/16</i>
Single or double Ang. Iron, Plate or Tee Bulb Iron	<i>7 1/2 x 7/16</i>	<i>7 1/2 x 7/16</i>	Beams, breadth and thickness	<i>58</i>	<i>58</i>
Single or double Angle Iron, on Upper Edge	<i>3 x 3</i>	<i>3 x 3</i>	Is the Stringer Plate attached to the outside plating?	<i>yes</i>	
Average space	<i>40</i>	<i>40</i>	Angle Irons on ditto, No. <i>2</i>	<i>4 x 4 x 9/16</i>	<i>4 x 4 x 9/16</i>
BEAMS, Lower Deck, Hold, or Orlop	<i>7 1/2 x 7/16</i>	<i>7 1/2 x 7/16</i>	Tie Plates, outside Hatchways	<i>13</i>	<i>10/16</i>
Single or double Ang. Iron, Plate or Tee Bulb Iron	<i>7 1/2 x 7/16</i>	<i>7 1/2 x 7/16</i>	Diagonal Tie Plates on Beams, No. of pairs	<i>13</i>	<i>10/16</i>
Single or double Angle Iron on Upper Edge	<i>3 x 3</i>	<i>3 x 3</i>	Waterways materials and scantlings	<i>3 1/2</i>	<i>3 1/2</i>
Average space	<i>40</i>	<i>40</i>	Flat of Middle Deck do. do.	<i>3 1/2</i>	<i>3 1/2</i>
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates	<i>17 x 12/16</i>	<i>17 x 12/16</i>	How fastened to Beams	<i>12 1/2</i>	<i>9/16</i>
Rider Plate	<i>10 3/4 x 12/16</i>	<i>10 3/4 x 12/16</i>	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	<i>33</i>	<i>9/16</i>
Bulb Plate to Intercoastal Keelson	<i>5 x 4</i>	<i>5 x 4</i>	Is the Stringer Plate attached to the outside plating?	<i>yes</i>	
Angle Irons	<i>5 x 4</i>	<i>5 x 4</i>	Angle Irons on ditto, No. <i>2</i>	<i>4 x 4 x 9/16</i>	<i>4 x 4 x 9/16</i>
Double Angle Iron Side Keelson	<i>26 x 8/16</i>	<i>26 x 8/16</i>	Stringer or Tie Plates, outside Hatchways	<i>11 x 9/16</i>	<i>11 x 9/16</i>
Side Intercoastal Plate	<i>5 x 4</i>	<i>5 x 4</i>	Flat of Lower Deck	<i>3</i>	<i>9/16</i>
do. Angle Irons	<i>5 x 4</i>	<i>5 x 4</i>	Ceiling betwixt Decks, thickness and material in hold	<i>2 1/2</i>	<i>2 1/2</i>
Attached to outside plating with angle iron	<i>5 x 4</i>	<i>5 x 4</i>	do. do.	<i>2 1/2</i>	<i>2 1/2</i>
BILGE Angle Irons	<i>5 x 4</i>	<i>5 x 4</i>	Main piece of Rudder, diameter at head do. at heel	<i>6 1/4</i>	<i>3 1/4</i>
do. Bulb Iron	<i>7 1/2 x 7/16</i>	<i>7 1/2 x 7/16</i>	Can the Rudder be unshipped afloat?	<i>yes</i>	
do. Intercoastal plates riveted to plating for length	<i>5 x 4</i>	<i>5 x 4</i>	Bulkheads No. <i>4</i> Thickness of	<i>6/16</i>	<i>6/16</i>
BILGE STRINGER Angle Irons	<i>5 x 4</i>	<i>5 x 4</i>	Height up	<i>6/16</i>	<i>6/16</i>
Intercoastal plates riveted to plating for length with <i>8 x 8 x 7/16</i> angle iron	<i>5 x 4</i>	<i>5 x 4</i>	How secured to sides of ship	<i>to double frames</i>	
DE STRINGER Angle Irons	<i>5 x 4</i>	<i>5 x 4</i>	Size of Vertical Angle Irons <i>3 x 3 x 7/16</i> and distance apart <i>30</i> ins.		

Transoms, material. Knight-heads. Hawse Timbers. *Wm. & Wm. Patent*  
 Windlass *Wm. & Wm. Patent* Pall Bitt

The FRAMES extend in one length from *Keel* to *gunwale* Riveted through plates with *7/8* in. Rivets, about *6* apart.  
 The REVERSED ANGLE IRONS on floors and frames extend *across* middle line to *above main deck stringer* and to *gunwale* alternately  
 KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? *yes* And butts properly shifted? *yes*

PLATING. Garboard, double riveted to Keel, with rivets *1/2* in. diameter, averaging *5 1/2* ins. from centre to centre.  
 Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets *7/8* in. diameter, averaging *3 1/2* ins. from centre to centre.  
 Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets *7/8 x 3/4* in. diameter averaging *3 1/2* ins. from centre to centre.  
 Butts of *Three* Strakes at Bilge for *half* length, treble riveted with Butt Straps *1/16* thicker than the plates they connect.  
 Edges from bilge to Main Sheerstrake, worked clencher, double *or single* riveted; with rivets *7/8 x 3/4* in. diameter, averaging *3 1/2 x 3* ins. from cr. to cr.  
 Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets *7/8 x 3/4* in. diameter, averaging *3 1/2 x 3* ins. from cr. to cr.  
 Edges of Main Sheerstrake, double *or single* riveted. Upper Sheerstrake, double *or single* riveted.  
 Butts of Main Sheerstrake, treble riveted for *half* length amidships. Butts of Upper or Spar Sheerstrake, treble riveted *half* length amidships.  
 Butts of Main Stringer Plate, treble riveted for *half* length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for *half* length.  
 Breadth of laps of plating in double riveting *5 1/4 x 1 1/2* Breadth of laps of plating in single riveting *none*

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? *Double & treble*  
 Waterway, how secured to Beams *Gutter* (Explain by Sketch, if necessary.)  
 Beams of the various Decks, how secured to the sides? *End turned & pieces welded* No. of Breasthooks, *3* Crutches, *Three*  
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? *Good*  
 Manufacturer's name or trade mark, *Stockton & Co. S.S. & Co. S.S. & Co. S.S. & Co.*

The above is a correct description.  
 Builder's Signature, *William Gray & Co* Surveyor's Signature, *S. P. Russell*  
 Surveyor to Lloyd's Register of British and Foreign Shipping.



See Secretary's Letter dated 10 Oct. 1875. 10 Dec. 1875. 11 March 1876.

**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? *They do*  
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* 16502 Iron.

Masts, Bowsprit, Yards, &c., are *Iron & 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 & Fore Mast of Iron made with three plates in the round Edges double riveted with 3/4 inch butts Reble & Double riveted straps 1/16 thicker than their plates Doubled in way of deck & wedging together of plates 3/16 & 1/16 Iron tested with hot & cold test found good marked "Barnesfield" & de Straining*

NUMBER for EQUIPMENT		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	N <sup>o</sup> .	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
N <sup>o</sup> .	SAILS.	CABLES, &c.					Bowers	3	30-3-21	29-6-27	30-0-0	20-12-0-0
	Fore Sails,	Chain	270	1 1/4	55 1/2	270 1/4			30-2-0	29-0-0	30-0-0	20-12-0-0
	Fore Top Sails,	<i>At Sunderland</i>			<i>16 June</i>	<i>1876</i>			25-2-0	25-3-3-0	25-2-0	20-4-0-0
	Fore Topmast Stay Sails	<i>J. Hartnup</i>										
	Main Sails,	Hmpn Strm Cbl	60	1 1/16								
	Main Top Sails,	Hawser ...	120	1 1/2								
		Towlines ...	100	1 1/2								
		Warp ...	100	1 1/2								
		quality <i>Good</i>	100	6-5-4								

Standing and Running Rigging *Wire & Damp* sufficient in size and *good* in quality. She has *Six* Long Boat and *Wood*  
The Windlass is *Good* *Emerson & Waller* Capstan *2 & good* and Rudder *Good* Pumps *Three of 7 inch wheel & one Downcast*

Engine Room Skylights.—How constructed? *3 in teak, 4 being to above deck* How secured in ordinary weather? *Bulls eyes*

What arrangements for deadlights in bad weather? *Bulls eyes*

Coal Bunker Openings.—How constructed? *Iron* How are lids secured? *Bars* Height above deck? *9 inches*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Ports & Scuppers*

Cargo Hatchways.—How formed? *7/16 Plate*

State size Main Hatch *19 ft. 10 in x 10 ft. 6 in, coming 32 in Fore hatch 11 ft. 11 in x 10 ft. 6 in coming 31 1/2 Quarter hatch 16 ft. 8 in x 10 ft. 6 in coming 32 in*

If of extraordinary size, state how framed and secured? *---*

What arrangement for shifting beams? *7/16 Plate in centre the whole depth of coming Double angle in edge*

Hatches, If strong and efficient? *Strong & efficient*

Order for Special Survey No. *544* Date *23 Oct 1875*

Order for Ordinary Survey No. *---* Date *---*

No. *155* in builder's yard.

**General Remarks** (State quality of workmanship, &c.) *Workmanship & Material good*

*Poop & Forecastle. Poop frames to the ht height of lower part of curve for rounded gunwale, beams single angles 5 x 4 x 9/16, Plating 6/16 at ends, extending on beams 40 inches Angles on De. 3 x 3 x 6/16. Tie plates on beams 7/16 x 6/16. Waterway 9/16 x 4 1/2 Deck Deck 3 in 1/4 Pine. Forecastle frames to the ht height, beams of angle iron 6 x 3 x 7/16, knee of bulk 7 x 7/16 Double angles in ht. edge 3 x 3 x 7/16. Stringer plates on end 20 x 6/16. Angles 3/16 x 3/16 x 6/16. Tie plates 8 x 6/16. Plating outside 6/16. upper strake to below 5/16. Waterway 10 1/2 x 8 Deck Deck 3 in 1/4 Pine. 7/16 Iron Main Deck fitted over Engine & Boiler space. Upper deck beams plated over in way of Fire & main hatchways with 6/16 plate extending three beam spaces before & after same.*

*Water ballast tanks fitted in fore & after hold. frames with connection made with three plates side plates 7/16 Angles on De. 3/16 x 3/16 x 7/16. Deck plates 6/16 Angles on De. 3 x 3 x 6/16. Top plating 6/16. Tested to a head of water to the height of load line.*

*William Gray & Co*  
40 ft. 33 ft. Fore tank 67 ft. 10. After tank 12 1/2 ft. D. 124-6

State if one, two, or three, decked vessel, or if spar, or awning decked, and the lengths of poop, forecastle, or raised quarter deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Flat Camend, other parts with* Outside *Paints*

I am of opinion this Vessel should be Classed *100 A 1*

The amount of the Entry Fee ... £ 5 : 0 : 0 is received by me, *S.P.G.*  
Special ... £ 63 : 10 : 0 - *26 June 1876*  
Certificate ... : : : *S.P. Gladstone*

(Travelling Expenses, if any, £ ... )  
Committee's Minute *27<sup>th</sup> June* 18 *76*

Character assigned *100 A 1*

*Lloyd's Register*  
*double bottom 124 1/2 ft. 10 in 12 1/2 ft. D. 124-6*